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ABSTRACT

This paper presents a study on how the South Carolina school site selection process can affect the quality of the students' experience and access to their schools. Focusing on students options for getting to school, e.g., hazards that prevent students from walking to school and the size of school sites that place schools on the edge of communities, the study found that students are four times more likely to walk to schools built before 1983 than to those built after 1983. The reasons for these trends is the disconnect between the school site selection process and land use planning considerations. School officials and planning agencies work independently of one another. This disconnect is partly attributed to current habits of site selection that were crystallizing in the early 1970s. Recommendations are discussed. Appendices provide lists of Lowcountry schools with data, schools with hazard routes and applicable date, and school sites by decade of construction. Appendices also present the percentage above and below state requirements of K-12 schools built in different decades, the South Carolina Department of Education criteria for school site selection, conservationist land use goals, and efforts to improve site selection in other states to avoid sprawl. A list of informational sources concludes the paper. (GR)

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Wait for the Bus:
How Lowcountry School Site Selection and Design Deter Walking to School and Contribute to Urban Sprawl

A Report Prepared for the South Carolina Coastal Conservation League

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Wait for the Bus:
How Lowcountry School Site Selection and Design Deter Walking to School

Overview

As new schools are built, children in America are losing the chance for the rich experience of walking to school, and also the chance for greater parental and community involvement in their education. We no longer build schools that are easily accessible to the community. Isolated and sprawling, new school campuses are built far from community centers, with busing conceived as the sole means of transportation. Instead, schools should be planned as integral parts of a community: connected to residential areas by sidewalks and bike paths, facilitating parental and community involvement, and inviting children within a two mile radius to explore their nearby communities as they walk to school.

> ***Students are four times more likely to walk to schools built before 1983 than to those built after 1983.***

This study shows how the decisions in the school site selection process can affect the quality of the students' experience and also the quality of life in our communities. I focused on students' options for getting to school, hazards that prevent students from walking, and the size of school sites. I found stark differences between schools built in different eras. New schools are far less walkable for their students: students are four times more likely to walk to schools built before 1983 than to those built after 1983. Hazards force more children attending new schools to be bused despite the fact that they live within 1.5 miles of their school; such students are over three times more likely to get hazard bus transportation[1] *to schools built since 1971 than to those built before 1971. New school sites are enormous: school sites constructed since 1983 are 41 percent larger than sites constructed before 1983. Finally, I found that without any justification, new sites are larger than they need to be: schools built since 1983 are an average 60 percent larger than South Carolina requires. Looking for these enormous sites, school officials regularly place new schools at the edge of communities on rural and undeveloped land.*

> ***"We all probably need to sit down more than we do and look at master development plans."***
> Emory Haselden, former Charleston County deputy superintendent for building projects, *Post and Courier*

The reason for these troubling trends is the disconnect between the school site selection process and land use planning considerations. School officials and planning agencies work independently of one another, and opportunities for the best school sites are often lost. This disconnect can be partly attributed to current habits of site selection that were crystallizing in the early 1970s. By 1970, most South Carolina Lowcountry school districts were probably using

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[1] Hazard Bus Transportation is shorthand for bus transportation provided to children living within 1.5 miles of their school because a barrier prevents their walking

The Arizona firm promoting minimum acreage requirements cannot articulate the goals that underpin them.

minimum acreage requirements set by the Council of Educational Facilities Planning Institute (CEFPI), an Arizona consulting firm. Today, CEFPI cannot articulate the goals that underpin their standards, even though these standards helped entrench the modern culture of school site selection.

Research Results

Schools Built in Recent Eras Are Less Walkable. Based on a survey of about 200 Lowcountry schools, newer schools are far less walkable than schools built in earlier decades. Among all the schools built before 1983, 16 percent of their students walk to school; meanwhile, only 4 percent of students at schools built since 1983 walk to school. Schools built since 1971 have only 7 percent of the students walk, while schools built before 1971 have 17 percent of the students walk. By decade, this analysis shows that schools sited in the 1980s (only 3 percent walk) and 1990s (only five percent walk) are dramatically less walkable than older schools. (See Figure 1.)

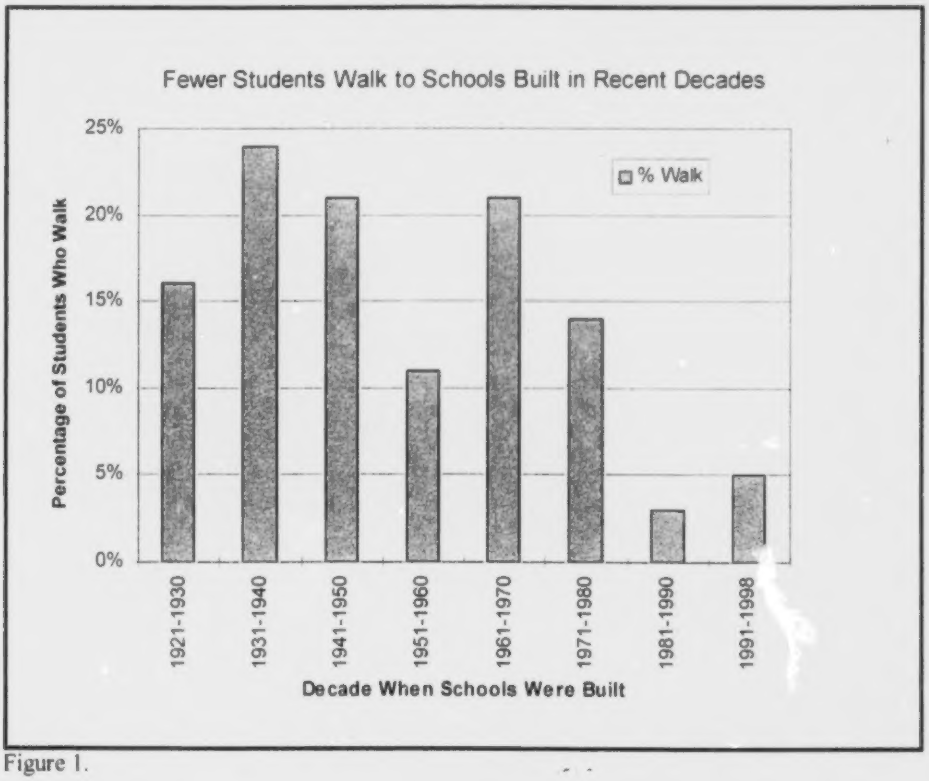


Figure 1.

Hazards Bar More Children from Walking to Recently Built Schools. The state of South Carolina does not provide bus transportation to children living within 1.5 miles of a school unless a hazard has been identified that makes walking dangerous, in which case the state and local school districts try to combine financial resources to provide bus transportation. Berkeley, Charleston, and Beaufort, keep data on the number of children who get hazard bus transportation. Of all students in these three counties attending schools built before 1971, only 6.3 percent require hazard bus transportation; at all schools built since 1971, over 20 percent of students require hazard transportation. Furthermore, analyzing hazard transportation used at schools built in different decades shows an increase every decade in the percentage of students receiving hazard transportation. Twenty percent of all students attending schools built in the 1980s receive hazard transportation; and, at 28 percent, 1990s schools have the highest percentage of all students receiving hazard transportation. (See Figure 2.)

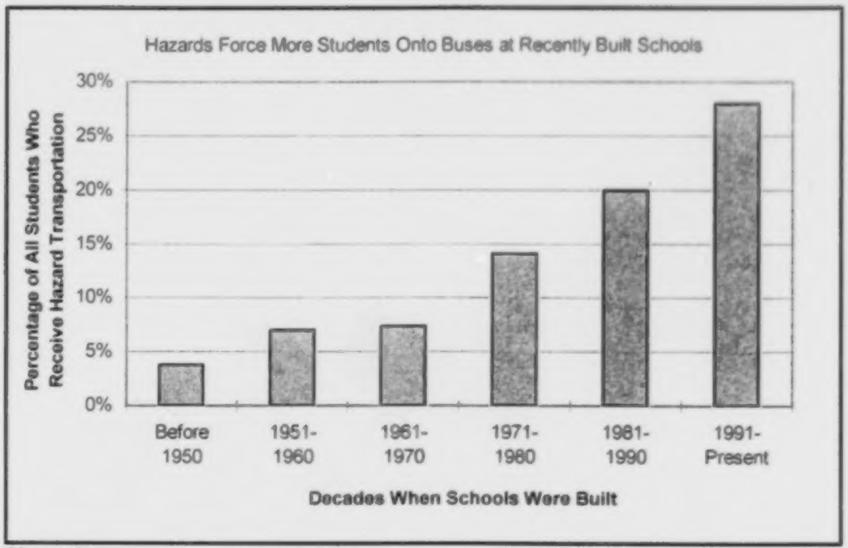
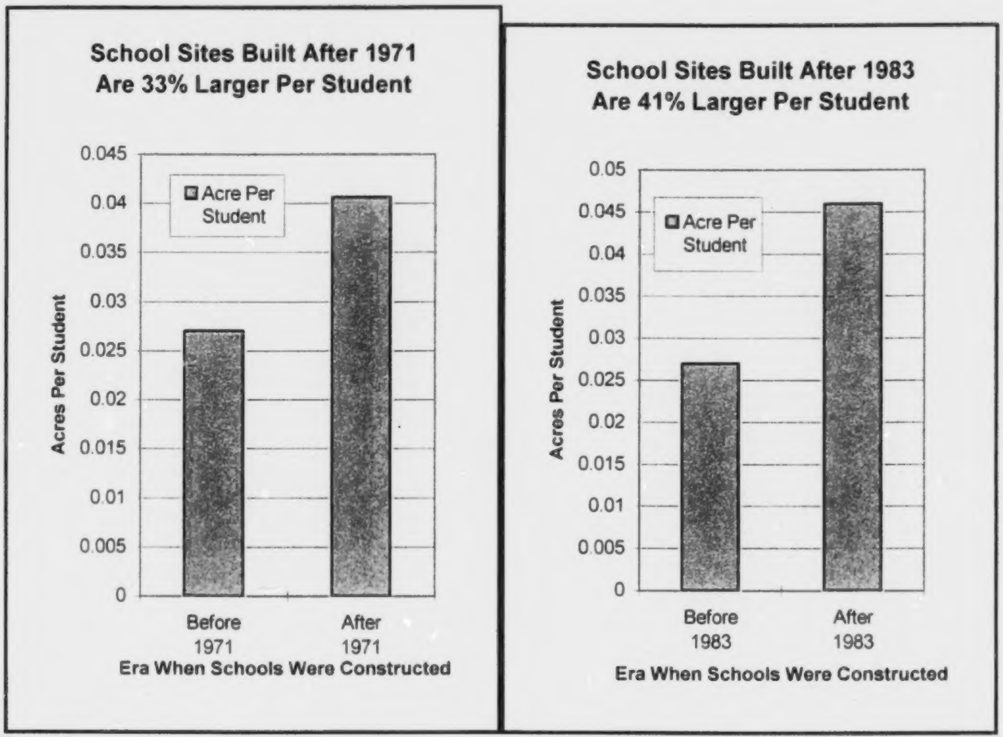


Figure 2.

Bigger Sites in Recent Eras. When comparing schools that are currently in use, Lowcountry school sites constructed since 1971 are 33 percent larger, in terms of amount of land used on average per student, than those sites constructed before 1971, and those built since 1983 are 41 percent larger than schools built before 1983. Comparing school site sizes by the decades in which schools were built shows that school sites constructed in the 1980s and 1990s are much larger than school sites built in all previous decades. (See Figure 3.)



School Sites Built After 1971 Are 33% Larger Per Student

School Sites Built After 1983 Are 41% Larger Per Student

Figure 3.

Recently Selected Sites Much Larger than State Requires. The South Carolina Department of Education imposes minimum acreage requirements for all new schools.[2] Though current state minimums were enacted in 1983, standards were likely in place by about 1970. Schools sites built since 1983 are 60 percent larger than the state currently requires, while those constructed before 1983 are 21 percent smaller than the state currently requires. Since 1971, newly constructed schools are 47 percent larger than the state currently requires while sites constructed prior to 1971 are 26 percent smaller than the state currently requires. Trends are similar when elementary, middle, and high schools are analyzed separately. (See Figure 4.)

> ***"You get caught in a paradigm of bigness. Big site. Big bus fleet. Big number of specialized activities. Schools are public institutions. They should reinforce the community, not go on the cheapest site available."***
> Jonathon King, Texas A&M School Of Architecture, *Post and Courier*

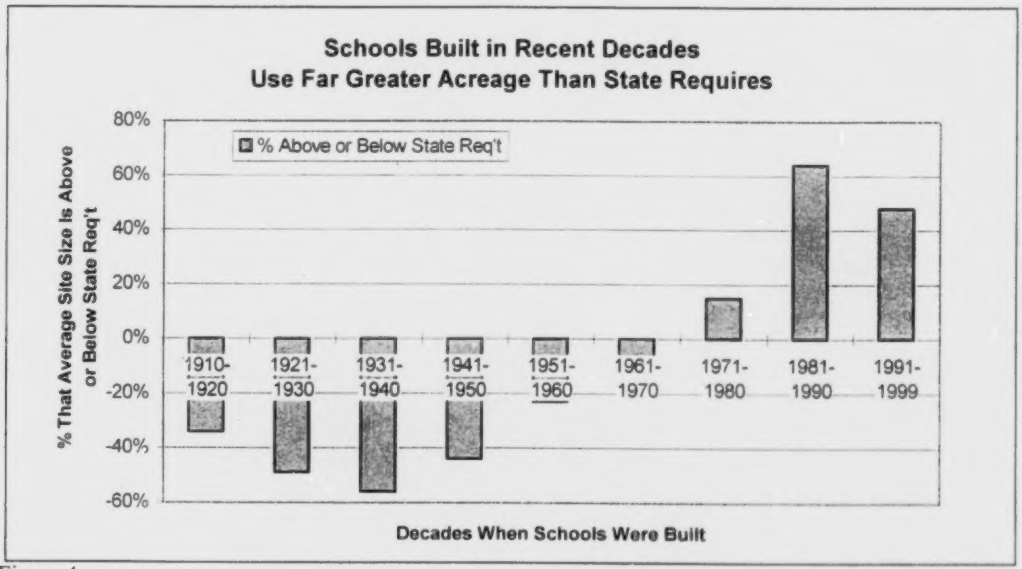


Figure 4.

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Type of School	Basic Number of Acres Required	Additional Acres Required Above Basic Acreage
Elementary	10	Plus 1 acre per 100 students on maximum projected enrollment
Middle	20	same as above
Junior High	20	same as above
Senior High	30	same as above
Vocational Center	10	same as above

Note: Where a district intends to build two schools on a single site, it is permissible to reduce the total combined required independent acreage by 15 percent based on certain groupings of types of schools unless the grouping requirements are waived by OSF.

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School Location Contributes to Urban Sprawl and Other Problems

> ***"School Sprawl: During the past few decades, school districts have often built new schools away from population centers."***
> *Post and Courier* June 1995.

There is strong reason to believe that the placement of schools contributes to urban sprawl, and there are at least five explanations for how new schools, regularly located at the edge of existing development, trigger this phenomenon. First, real estate developers who give land to school districts to help sell houses often select school sites. These sites frequently are at distant locations, are undesirable for construction, and are oddly configured.

Second, often new schools introduce infrastructure to a rural or undeveloped area for the first time making it easy for residential and commercial development projects to follow. By placing the school there, infrastructure like water and sewer is provided to a location where it was not needed nor expected. The result is that otherwise rural land that would not have developed is transformed and suddenly desirable for development.

> ***"That's going to happen wherever we put a school…Schools attract development, and then schools are filled."*** Herman Gaither, superintendent Beaufort County Schools District, *Beaufort Gazette*

Third, new schools attract residents and thus can re-characterize an area; unexpected booms in development may occur in an area where a new school is located.

Fourth, a town can easily annex a school located on its outskirts, and this in turn can facilitate development of an area contiguous to the school that otherwise should not urbanize. Under South Carolina law, a town can annex a school without much obstruction because schools have no assessed property value. Once a town annexes a school, it is then easy for a contiguous landowner – dissatisfied with restrictions on development that he may encounter from the county – to join the municipality. Thus, a landowner can attempt to circumvent rural development restrictions.

Finally, the design criteria of schools themselves can contribute to sprawl. These criteria regularly include huge space requirements that force schools to go to the edge of town. Thus, schools are usually located in a way that perpetuates the sprawl model.

Current Site Selection Process: Disconnect between Local Planners and School Officials

South Carolina law authorizes the state to approve sites, but local school districts primarily control the site selection process. With great autonomy, local districts are not obligated to work with local planners or other government officials on selecting a new site, and they need not ensure that its location fits into a community's overall comprehensive development plan. In addition, no district voluntarily makes working with local planners a practice. The actual steps a district takes in choosing a site vary among the districts, but there are some state regulations that a local school district must follow. The clearest of these is the acreage requirements, the only reprieve from which is an ineffectual and unclear waiver process.

Conservationist Land Use Is Compatible with Effective School Site Selection

The criteria for a successful school site provided by the South Carolina Department of Education shows that choosing a successful school site and efficiently using land are two aims in great harmony. The aims of land conservation include minimizing traffic congestion, minimizing infrastructure costs, and mitigating adverse environmental impacts of development. The state's criteria for an effective new school site include energy conservation, proximity to existing community services, and availability of existing utilities. Both groups of goals can be attained by building schools at in-fill locations amongst existing development, rather than beyond it.

Recommendations

The following recommendations are made with the hope of giving communities in general and children in particular the benefits of better located schools. These measures will make the school site selection process more effective by helping school officials meet the needs of communities in the Lowcountry and across South Carolina to ***promote the health of their children***, ***conserve land***, and ***keep communities intact***.

I. The first group of recommendations applies to the State Department of Education and addresses that department's need to provide ***leadership, education, and technical assistance*** to local school officials aiming to meet the needs of today's communities.

- **ONE:** South Carolina should weaken the acreage requirements by making them only guidelines as other states have done.
- **TWO:** South Carolina should provide technical assistance to local school officials to maximize the use of existing structures. To this end, the state should compile a list of can-do architects who are skilled at renovating and modernizing the technology and amenities of old buildings. In addition, the state should assist local school officials in working with other local government authorities to use existing facilities like parks, stadiums, parking lots, and playing fields.
- **THREE:** South Carolina should educate local school officials on the benefits of locating schools at in-fill and central locations in order to help keep communities intact and reduce sprawl.

II. The second group of recommendations applies to local officials and addresses the need for them to ***coordinate their efforts to locate and design*** the best new school sites.

- **ONE:** Meetings held between real estate developers and school facility planners should include a planner from the local jurisdiction to insure compliance with the local comprehensive plan and help arrange for adjoining public facilities wherever possible.
- **TWO:** The local jurisdiction where new schools are to be built should have the ability to review and approve proposed school sites.
- **THREE:** Local school officials should consult with the local jurisdiction's planners on the design of the school site and the connection to the external road network to maximize opportunities for walking and biking.

- **FOUR:** Local school officials should work with other local authorities to eliminate hazards that prevent children who live within 1.5 miles of their school from walking to school. Both local school and government authorities should report any such hazards once identified and then work to mitigate these hazards to maximize the opportunity for children to walk to school.

III. The third group of recommendations applies to the South Carolina Department of Education, the South Carolina Department of Transportation, and local school districts and addresses the need of these entities to ***coordinate better transportation options*** to minimize costs and environmental impact.

- **ONE:** Local school officials should work with city and regional transportation authorities to incorporate city buses as an option for transporting students to and from school.
- **TWO:** SCDOT should channel more of South Carolina's federal highway dollars to make safer bike and pedestrian routes to schools. These funds should be used to make more and safer crosswalks, traffic calming programs, constructing sidewalks where none exist, and bike paths all with a particular focus of helping children who live within 2 miles of their school get there by their own means.
- **THREE:** Local officials should prepare a transportation cost-benefit analysis of a proposed site before they make a decision on a new school location.
- **FOUR:** Local school districts should replace the excessive dependence on huge parking lots at new schools with policies emphasizing carpooling and use of existing parking.

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Sources

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I would like to thank everyone at the South Carolina Coastal Conservation League. Their help was invaluable to completing this project, their smiles and laughs made the work fun, and I will always value the education they provided me about a successful non-profit, smart conservation efforts, and the culture and landscape of the South Carolina Lowcountry. Thank you Kathy, Marcy, Melissa, Sister, Sam, Nina, Michelle, Caitlin, Jane, Caroline, Nancy, and Dana. I enjoyed working with you and look forward to our continuing friendship. In addition, I want to give special thanks to Craig Campbell, also with the Conservation League. Craig spent many long hours creating the GIS maps and helped me try to measure the amount of sprawl caused by school location using GIS technology – a task that proved too elusive in the end.

I would also like to thank Sarah Jaycox, Amy Parker, and Amy Carter all of Charleston who volunteered to help me phone schools and conduct the walk to school survey.

Finally I want to thank Professor Fritz Mayer, my faculty advisor at Duke, whose guidance kept me focused. Thank you for all of your time and attention…and dinner.

There are many, many other people, all of whom I interviewed, who were of great help in this endeavor. They are folks who work in the South Carolina Lowcountry, particularly in the local school districts. The interview section in my list of sources at the end of this report serves as a reminder of all those who were of invaluable assistance. Thank you.

INTRODUCTION

As new schools are built, children in America are losing the chance for the rich experience of walking to school, and also the chance for greater parental and community involvement in their education. We no longer build schools that are easily accessible to the community. Isolated and sprawling, new school campuses are built far from community centers, with busing conceived as the sole means of transportation. Instead, schools should be planned as integral parts of a community: connected to residential areas by sidewalks and bikepaths, facilitating parental and community involvement, and inviting children within a two mile radius to explore their nearby communities as they walk to school.

I completed this study of school site selection in the Lowcountry for the South Carolina Coastal Conservation League. This report shows how the decisions in the school site selection process can affect the quality of the students' experience and also the quality of life in our communities. I focused on students' options for getting to school, hazards that prevent students from walking, and the size of school sites.

I found stark differences between schools built in different eras. New schools are far less walkable for their students: students are four times more likely to walk to schools built before 1983 than to those built after 1983. Hazards force more children attending new schools to be bused despite the fact that they live within 1.5 miles of their school; such students are over three times more likely to get hazard bus transportation[1] *to schools built since 1971 than to those built before 1971. New school sites are enormous: school sites constructed since 1983 are 41 percent larger than sites constructed before 1983. Finally, I found that without any justification, new sites are larger than they need to be: schools built since 1983 are an average 60 percent larger than South Carolina requires. Looking for these enormous sites, school officials regularly place new schools at the edge of communities on rural and undeveloped land.*

The reason for these troubling trends is the disconnect between the school site selection process and land use planning considerations. School officials and planning agencies work independently of one another, and opportunities for the best school sites are often lost. This disconnect can be partly attributed to current habits of site selection that were crystallizing in the early 1970s. By 1970, most South Carolina Lowcountry school districts were probably using minimum acreage requirements set by the Council of Educational Facilities Planning Institute (CEFPI), an Arizona consulting firm. Today, CEFPI cannot articulate the goals that underpin their standards, even though these standards helped entrench the modern culture of school site selection.

Current Methods and Priorities Do Not Meet Today's Community Needs

The current school site selection process does not meet today's community needs in two significant ways. First, current practices conflict with efforts to curtail urban sprawl; second, current practices are not leading to sites that are conducive to pedestrian and bike traffic.

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[1] Hazard Bus Transportation is shorthand for bus transportation provided to children living within 1.5 miles of their school because a barrier prevents their walking.

Incompatible with Efforts to Contain Sprawl. In 1994, the General Assembly passed the South Carolina Local Government Comprehensive Planning Enabling Act.[2] Under that legislation, all planning agencies around the state must complete a comprehensive development plan for their respective jurisdictions (due by this past May 1999). The aim of the legislation was to provide South Carolina communities with a better mechanism to manage the rapid urban growth that many communities across the state were experiencing. Unfortunately, that aim can be easily undermined by a local school district when it proposes to build a new school. When a school district's plan conflicts with a local comprehensive development plan (for example, if the proposed new site is outside of the jurisdiction's urban growth boundary) the school district is free to proceed with the incompatible project after publicizing its reasons for proceeding. *There is no government authority that can stop the project even if the location makes no sense for the community.* Locating schools in a way that is *compatible with local development growth plans* is a current need for school location.

Failing to Help Children Walk to School. Increasingly, new school sites are not conducive to walking, and therefore, children walk less to new schools than to old schools. In this report, I do not identify all of the reasons that new schools are being walked to less than older schools. For example, I do not discuss economic reasons. However, it is clear that when comparing schools currently in use, children walk less to new schools than to old schools. Our children's health is a shared community concern and decreasing physical activity among children is highlighted as a problem by the Center for Disease Control and other health organizations, *increasing safe and accessible pedestrian routes to schools* is a current need for school location.

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[2] S.C. Code Sections 6-29-310 through 6-29-1200, 1994.

CHAPTER 1

RESEARCH RESULTS

Newer School Sites Are Much Larger and More Inaccessible to Walking Than their Older Counterparts[3]

School sites selected in recent decades are drastically bigger and less accessible than older schools that are still operating. Analyzing Lowcountry public schools built in different eras, I found stark differences when comparing students' options for getting to school, hazards that prevent students from walking, and the size of school sites measured on an acre-per-student basis. The result is that newer schools consume tremendous amounts of land and, compared to older schools, require more busing that is avoidable.

In this chapter, I present my research results from comparing school site size, walkability, and hazard transportation. I found that new schools are far less walkable for their students: students are four times more likely to walk to schools built before 1983 than to those built since 1983. Hazards force more children attending new schools to be bused despite their residency within 1.5 miles of their school: students are nearly three and a half times more likely to get hazard bus transportation to schools built since 1971 than to those built before 1971. New school sites are enormous: school sites constructed since 1983 are 41 percent larger than sites constructed before 1983. Finally, I found that without any justification, new sites are larger than they need to be: schools built since 1983 are an average 60 percent larger than South Carolina requires. (See Appendix 1 for a list of Lowcountry schools including year of construction, acreage, and results of the walking survey.)

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[3] I compare schools built before and after 1983 because that is when South Carolina began to impose its current minimum acreage requirements; in addition I compare schools built before and after 1971 because this is when I believe that most Lowcountry schools were using minimum acreage standards. I made that determination because (1) state school officials stated some sort of requirements were being used prior to 1983, (2) half of the United States were using CEFPI's requirements by 1960, and (3) a 1974 Charleston County School district inventory compared site sizes with CEFPI standards.

Schools Built in Recent Eras Are Less Walkable. Based on a survey of over 200 Lowcountry schools, new schools are far less walkable than schools built in earlier decades.[4] Among all the schools built before 1983, 16 percent of their students walk to school; but, only 4 percent of students at schools built since 1983 walk to school. Likewise, the same general pattern is seen when comparing schools built since 1971 where only 7 percent of the students walk to school, while 17 percent of students walk to schools built before 1971. (See Figure 1.)

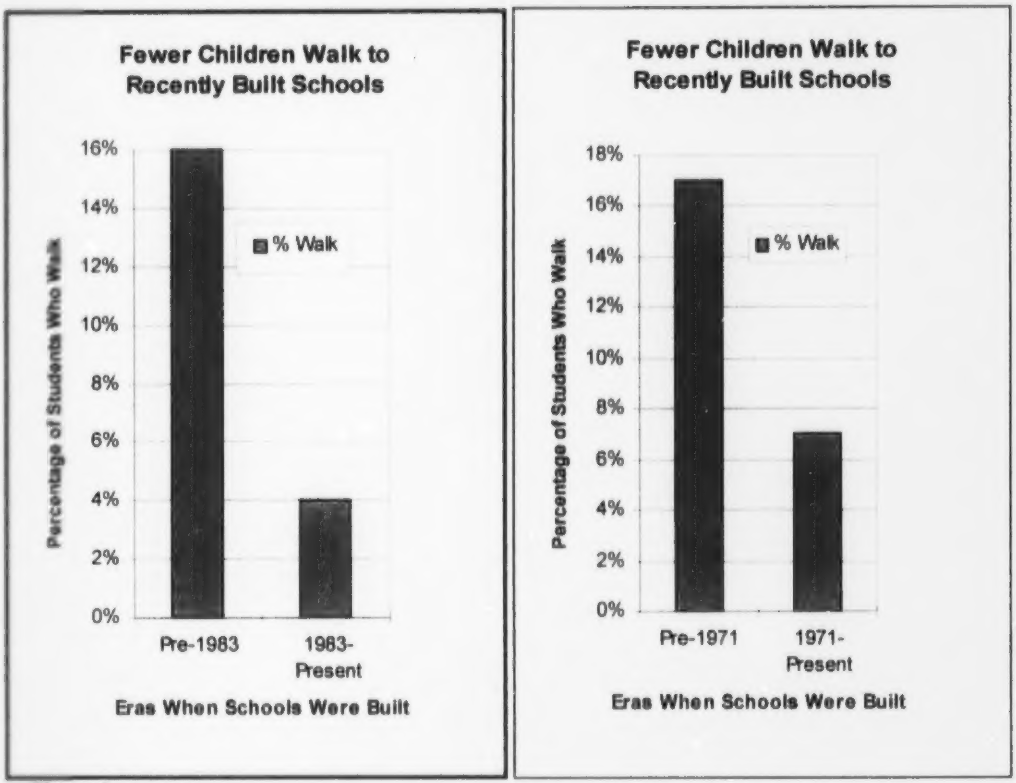

Figure 1.

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[4] ***Methodology of the Walking Survey.*** The number of students who walk is not officially kept by any Lowcountry district, so with the help of volunteers, I called about 200 schools in the Lowcountry to directly ask principals how many of his/her students walk to school. Principals replied in one of two ways: either (1) the exact number of students who walk was shared because it is officially kept by the school; or there were so few walkers that the principal knew the exact number; or (2) he/she would cogitate and give a best estimate. Best estimates were often reached with the help of other administrators. The figures that schools provided were for the 1998-99 school year.

Analyzing the walkability of schools built in different decades shows that schools sited in the 1980s and 1990s are dramatically less walkable than schools sited in earlier decades. At schools built in the 1980s, only three percent of the students walk to school, and at schools built in the 1990s only five percent of the students walk to school. (See Figure 2.)

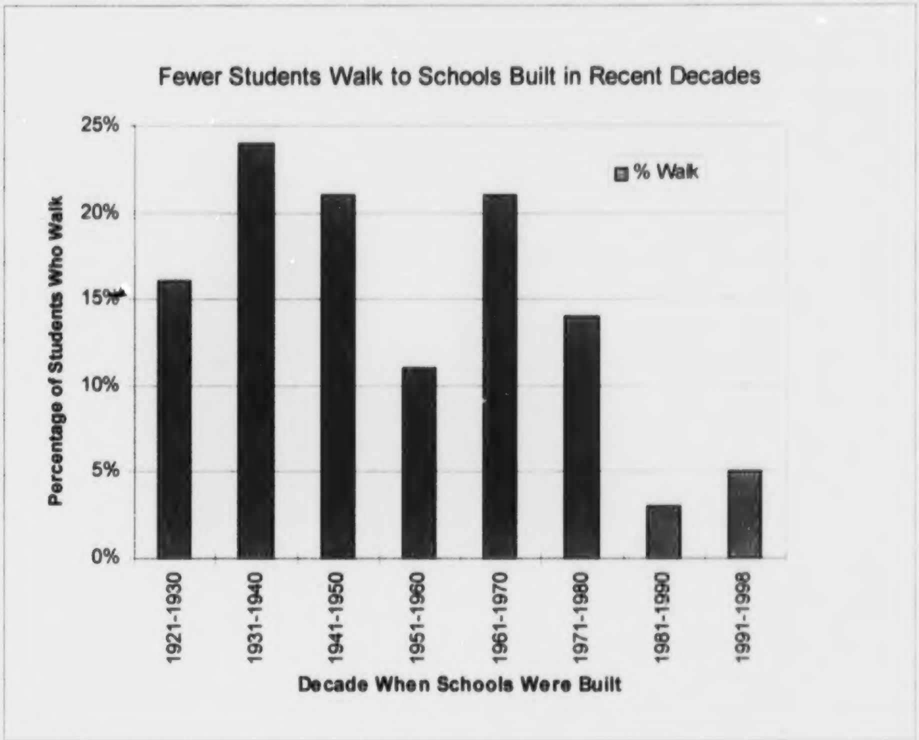

Figure 2.

In recent decades, it is increasingly clear that making schools walkable is not a priority of school officials when they select and plan new school sites. The evidence shows that schools built in recent decades are barely walkable, thus demonstrating that under the current site selection methods, new school locations do not meet some of today's greatest needs in South Carolina. First, it highlights the isolation of new school locations. Placed away from the core of the communities they serve, newer schools are not easily reached by residents like older schools are. This new trend shows the lost potential for new schools to be community centers.

Second, evidence of un-walkability demonstrates the effects of designing schools in the absence of comprehensive land use planning. The current lack of collaboration among local school and planning officials means that the maximum benefit of the new school to serve the entire community is lost. The benefits would be greater if new schools were connected by sidewalks and bike paths to surrounding and nearby neighborhoods.

Third, by making schools un-walkable, children are deprived of a great outlet for daily physical activity. Decreased physical activity among school age children is a general concern for health officials across the nation. The Center for Disease Control, for example, has identified that decreased physical activity among school age children has led to unprecedented levels of obesity among this population; according to the CDC, such a condition leads to a whole host of other lifetime health and disease risks.[5]

Hazards Bar More Children from Walking to Recently Built Schools. The state of South Carolina does not provide bus transportation to children living within 1.5 miles of a school. However, if a child living within that radius is deemed to be on a hazardous route that would make walking to school dangerous, the state Department of Education and local school districts try to combine financial resources to provide bus transportation for that child.

Three of the largest Lowcountry school districts, Berkeley, Charleston, and Beaufort, keep data on the number of children at each school who get hazard-route bus transportation (see Appendix 2 for the numbers relating to hazard transportation at schools in each of these school districts). Of all students in these three counties, only 6.3 percent attending schools that were built before 1971 require hazard bus transportation. However, at schools built since 1971, over 20 percent of all students require hazard transportation. Similarly, using 1983 as a break-off year, schools built before 1983 have 7.8 percent of all students receiving hazard transportation. At schools built since 1983, students are three times more likely to be barred from walking by a hazard as 24 percent of the students receive hazard transportation. (See Figure 3.)

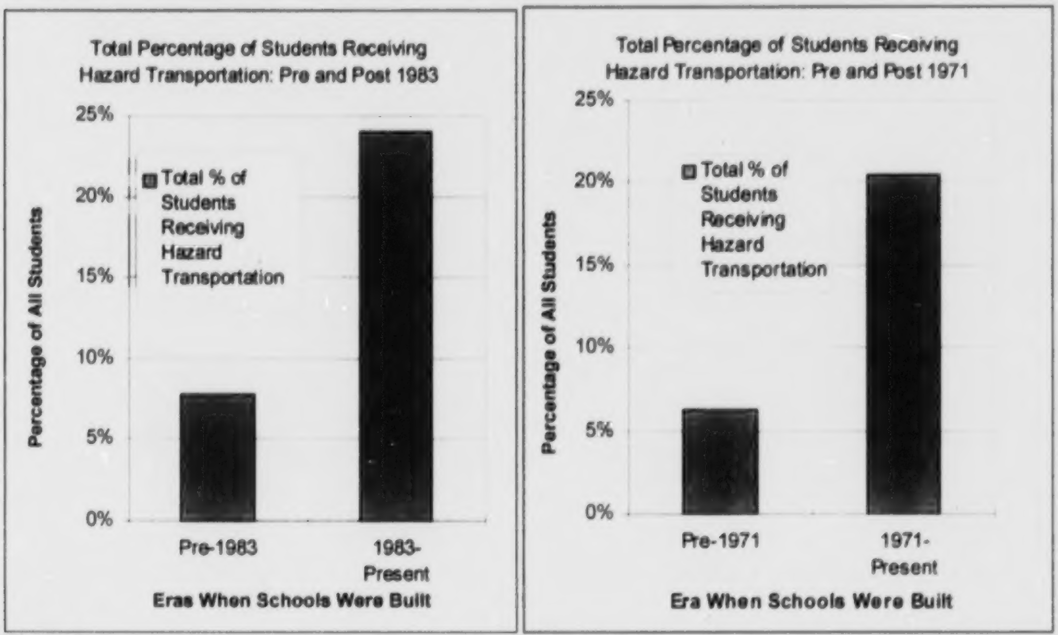

Figure 3.

Analyzing hazard transportation used at schools built in different decades shows an increase every decade. Schools built before 1951 have 3.8 percent of all students receiving hazard transportation; at schools built in the 1950s, 7 percent of all students receive hazard transportation; 1960s schools have 7.4 percent of all students receiving hazard transportation; 1970s schools have over 14 percent of all students receiving hazard transportation; 1980s schools have 20 percent of all students receiving hazard transportation; and finally, at 28 percent, 1990s schools have the highest percentage of all students receiving hazard transportation. (See Figure 4.)

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[5] The CDC joined with other organizations, like the Environmental Protection Agency and the American Automobile Association, in the *Partnership for a Walkable America*; together they sponsoring the national Walk a Child to School Day October 6, 1999. The aim of the event was to increase the accessibility and safety of walkable routes to schools for children and promote the health and lifestyle benefits of walking to school.

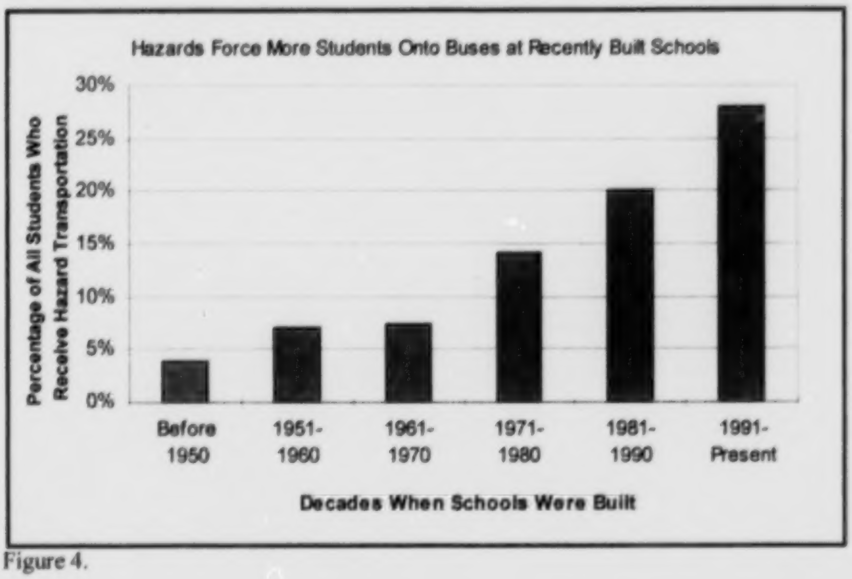


Figure 4.

The trends are similar when comparing only those schools that have hazard routes – again, a greater percentage of students are affected at recently built schools than older schools. At "hazard route" schools built since 1983, 39 percent of the student body received hazard route transportation, while only 17 percent of the student body at these schools built before 1983 received hazard transportation. Comparing schools built during and after 1970 shows the same pattern. At schools built since 1971, 34 percent of the student body received hazard transportation, while only 14 percent of the student body at schools built before 1971 received hazard transportation.

Comparing "hazard route" schools built in different decades shows remarkable increases from the 1960s to the 1970s. At schools built in the 1960s that have hazard routes, 14 percent of all students received hazard transportation, while 24 percent of the student body at similar schools built in the 1970s received the transportation. Sharp increases continue in the 1980s and 1990s. (See Figure 5.)

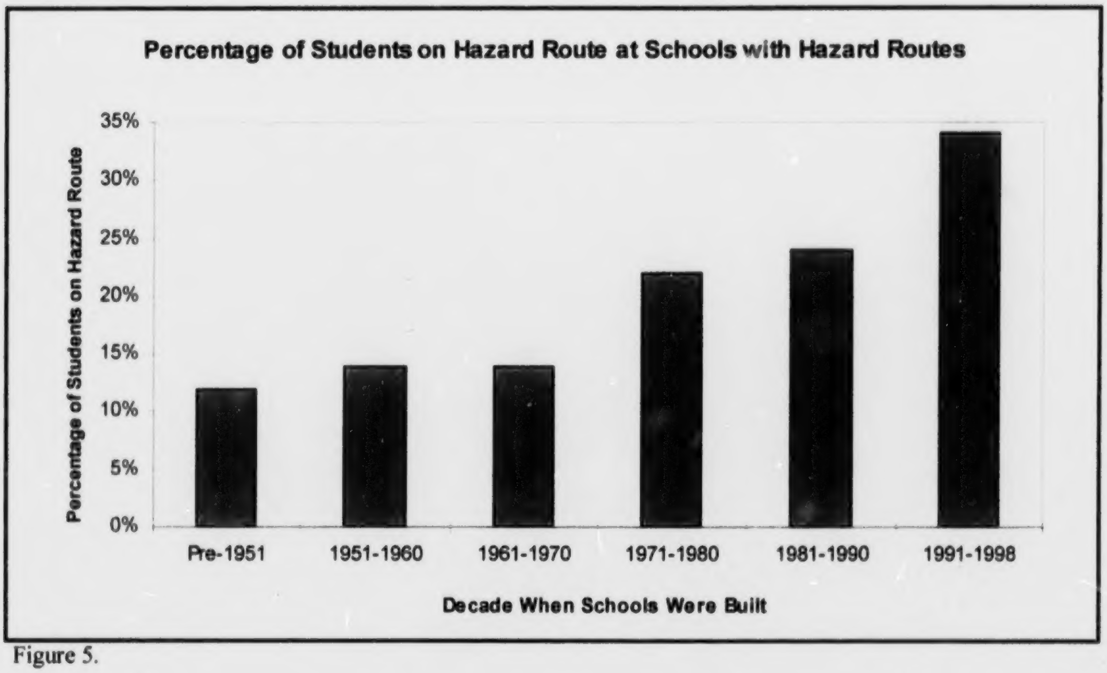


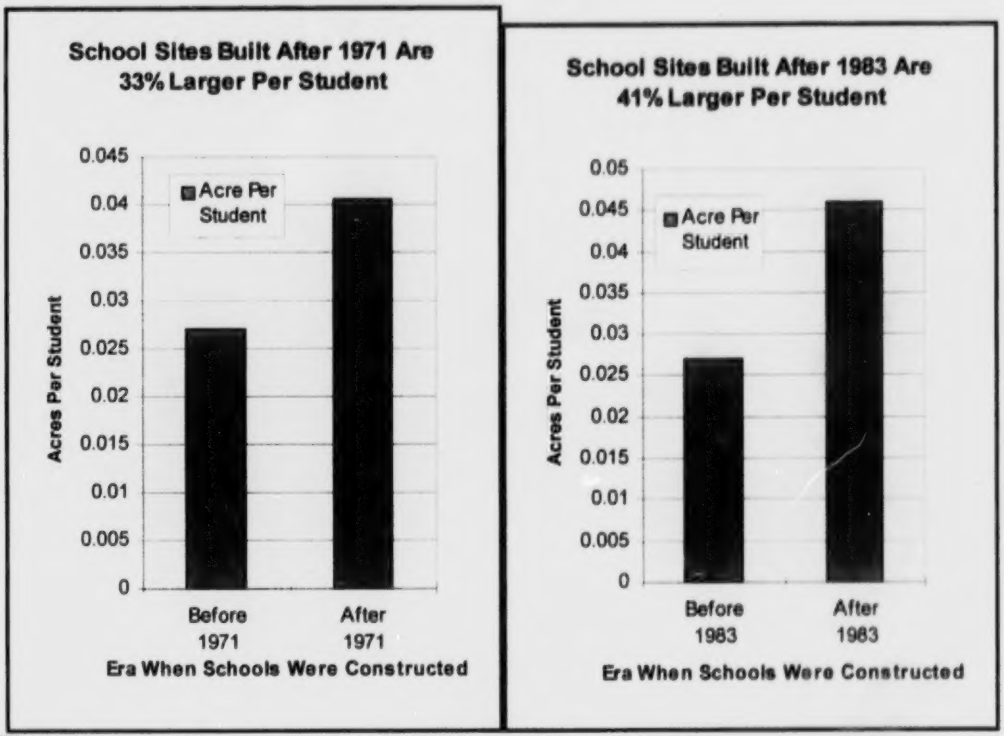
Figure 5.

Similar to findings about walkability in general, the evidence relating to hazard route bus transportation shows that increasingly schools are not planned well in terms of pedestrian access. Often, schools are built close enough to neighborhoods for students to walk, but facing hazards that make walking unsafe, children are bused a strikingly short distance to school. In Dorchester County School District 2, Oakbrook Elementary (opened 1987) is a good example of a school that is close but inaccessible for students to walk. Barriers to walking to Oakbrook include the absence of sidewalks from Dorchester Road coming up to the school and the four-lane highway from King's Grant subdivision. Although "as the crow flies, many students live close by" the school does not encourage children to walk. A bus is provided for some students living less than half a mile from school.

Under the current site selection methods, unnecessary transportation costs are incurred from the mounting need for busing for hazard routes; obviously, this leaves taxpayers with a burden that could unquestionably be avoided. By locating new schools closer to existing development – and not in isolation on a major highway – and planning schools with pedestrian and bicycle connections, tax dollars could be saved by minimizing the need for bus transportation. Choosing closer sites and connecting them with bike paths and sidewalks would incur greater costs initially; but a community that makes these capital investments up front will realize more benefits and eliminate more costs over the long run. Ultimately, tax savings will accrue by eliminating unnecessary transportation costs.

In addition to the health benefits of increased physical activity, students walking to school will enjoy social benefits. Walking allows them the chance to learn about their community as they navigate neighborhoods for a 1 to 2 mile walk twice a day. Increasing the number of students who can walk to school does not require revolutionizing school sizes nor even their locations; instead, it requires eliminating hazards that bar children from safely walking to school and increasing sidewalk and bike path connections.

Bigger Sites in Recent Eras. Evidence of limited walkability and increasing hazard route transportation in recent decades correlates with another trend at new schools that may belie those problems: new school sites are enormous. When comparing schools that are currently in use, recently built public schools in the South Carolina Lowcountry use far more acreage per student than counterpart schools built in previous decades. Lowcountry school sites that were constructed after 1970 are 33 percent larger, in terms of the amount of land used on average per student, than those sites constructed before 1971. Schools built since 1983 are even larger: sites constructed since 1983 are 41 percent larger on average than those sites constructed prior to 1983. (See Figure 6.)



School Sites Built After 1971 Are 33% Larger Per Student

School Sites Built After 1983 Are 41% Larger Per Student

Figure 6.

Comparing school site sizes by the decades in which they were built shows that schools constructed in the 1980s and 1990s are much larger in terms of the acreage used per student than school sites built in all previous decades. Except for the 1950s, the average amount of acreage used per student is more since the 1970s than in all previous decades. The 1950s blip is likely explained in part by South Carolina's rare statewide investment in school infrastructure that decade, and possibly an inflated emphasis put on site size in the climate of Cold War fears that decade. Until this past May 1999, the 1950s was the last time the state committed funds for the building of schools. (See Appendix 3.)

Problems Related to the Selection of Enormous Sites. The fact that school sites are getting much larger has certain repercussions. First, looking for these enormous sites, school officials regularly place new schools at the edge of communities on big stretches of rural and undeveloped land: essentially, limited land in Lowcountry counties reduces the chances that tremendous sites are available at in-fill locations, closer to existing development.

Second, local school districts themselves, regardless of residential and commercial sprawl, consume great amounts of precious rural land at the periphery of Lowcountry communities. Thus, the practice of selecting enormous school sites undermines principles of land conservation in the Lowcountry.

Third, once located far from a community center, higher transportation costs result. Generally, the state of South Carolina funds basic transportation for students. However, each school district is unique, and their actual transportation costs can surpass the amount of funding provided by the state for reasons ranging from a school district's high cost of living to a its curriculum. In 1997-98, for example, Charleston County Schools (CCSD) spent nearly $4 million on transportation that was not reimbursed by the state of South Carolina. More specifically, state and local officials combined to spend a total of $1.81[6] for every mile of transportation provided by the buses in CCSD. Based on these numbers, a bus that travels ten less miles two times in a day will save $36 a day: that means a savings of $72,400 for ten buses that travel 200 days a year. These transportation expenses are overlooked when school officials choose distant sites.

In a few years, these burdensome transportation obligations will overcome the apparent savings to the school district on less expensive land. In addition to the school system's direct transportation expenses, parents and students who must carpool the greater distance will be saddled with the extra costs of travel. Increased travel over this greater distance will generate more traffic congestion than would a site closer to town. At a closer site, trips would be shorter, and with less money spent on improving roads in the rural vicinity of a distant school site, a greater share of new road dollars would be available for in-town improvements. Finally better air quality and water quality would result from fewer car trips, shorter car trips and reduced congestion.

Recently Selected Sites Much Larger than State Requires. The South Carolina Department of Education imposes minimum acreage requirements for all new schools.[7] The current state minimums were enacted in 1983, but standards were likely in place by about 1970.[8]

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[6] South Carolina Department of Education

[7]

Type of School	Basic Number of Acres Required	Additional Acres Required Above Basic Acreage
Elementary	10	Plus 1 acre per 100 students on maximum projected enrollment
Middle	20	same as above
Junior High	20	same as above
Senior High	30	same as above
Vocational Center	10	same as above

Note: Where a district intends to build two schools on a single site, it is permissible to reduce the total combined required independent acreage by 15 percent based on certain groupings of types of schools unless the grouping requirements are waived by OSF.

[8] Interview with John Kent, executive director of the South Carolina Department of Education Office of School Facilities, Charleston County School District inventory report of property system wide, 1974. The minimum requirements pertains to usable land; thus, if the state requires 20

Comparing school site sizes shows that those selected in recent decades are far larger than the state currently requires. Older schools that are still in use, on the other hand, are much smaller than the state currently requires.

School sites built since 1983 are 60 percent larger than current state requirements while school sites constructed before 1983 are 21 percent smaller than the state currently requires. Since 1971, newly constructed schools are 47 percent larger than current state requirements while sites constructed before 1971 are 26 percent smaller than current state requirements. Figure 7, below, shows these trends by decade: the graph exhibits the average percentage of acreage, above or below the current state requirements, that schools built in different decades use. While sites selected in the 1980s and 1990s use considerably more land than the state requires, on average all sites constructed since 1971 are larger than the state currently requires.

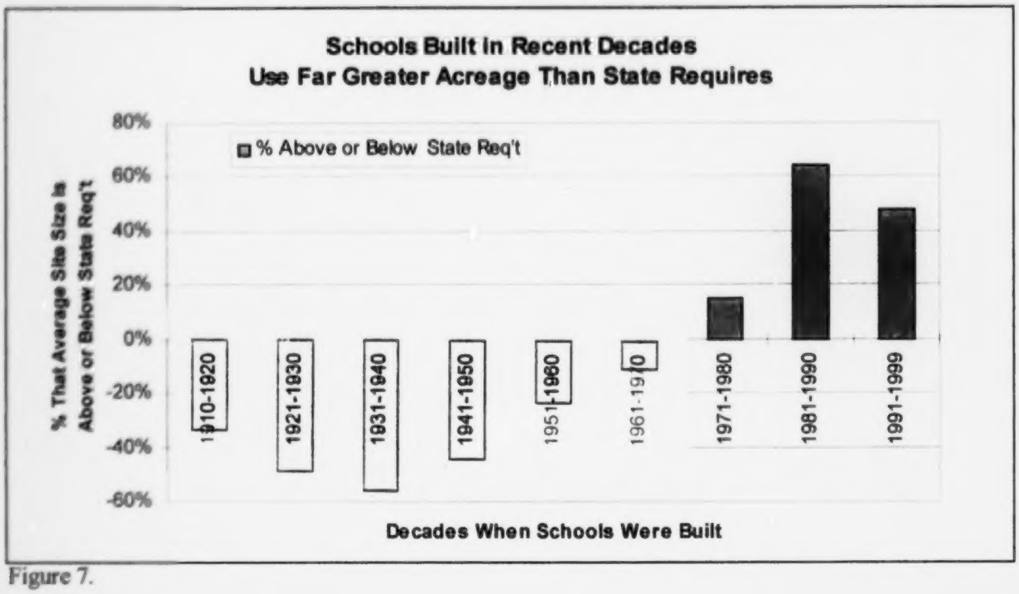

Figure 7.

The trends are similar when separately evaluating elementary, middle, and high schools. Elementary school sites in recent decades use more land than is currently required, consistently increasing from 25 percent more in the 1970s to 31 percent more in the 1980s, and finally topping off at 37 percent more in the 1990s. Middle school sites show the oddest and most extreme fluctuations. Middle schools built in the 1970s use an average of 14 percent more land than is required today; in the 1980s, they use 139 percent more land than is currently required; and then in the 1990s, they recede to occupying 22 percent more land than is required. In recent decades, high school sites consistently increase in the amount of land used above the state requirements. Sites for high schools built in the 1970s are 29 percent larger than is currently required; in the 1980s, they use 40 per cent more land than is necessary today; and finally in the 1990s, high schools use 91 percent more land than is required. (See Appendix 4.)

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acres for a new school then 20 acres that includes five acres of wetlands would be insufficient by state standards. Overall, unusable land comprises a small percentage of land on school sites.

The reasons that such large sites have been chosen in recent decades are manifold. There is a mentality that bigger is better; in part, CEFPI's promotion of and the state's imposition of minimum acreage requirements influence this tendency toward "bigness". There is no reciprocal *maximum* acreage requirement, so naturally school districts are tacitly encouraged to err on the side of using excess land as opposed to efficiently using less land. In addition, there is a commitment to provide copious paved parking lots (especially on the high school level) and a belief that bigger school campuses help attract industry.

Explanations for Using More Land than State Requires Are Vague. School officials regularly assert that large sites are demanded by the educational specifications of a new school. These explanations, however, seem inadequate because they do not clarify the amount of land that is actually necessary for a new school; thus, it is difficult to know whether the education goals could be achieved on less land. Such justifications are particularly hollow when school officials look for more land than even the new school plan requires. Furthermore, if enormous sites far larger than the state requires are needed for students to receive a quality education, then about half of all Lowcountry students are on insufficient sites. Yet, that is not a concern raised by school officials. Also, it would raise the irrational assumption that other southeastern states like Virginia and Florida which require far less acres at school sites are depriving their students of adequate facilities when choosing new school sites (see page 33 for Virginia requirements and page 5 of Appendix 7 for Florida requirements).

Overlooking Best Sites. Looking for sites that are much larger than the state requires, local school officials place new schools at a community's periphery where enormous sites are both available and affordable in the short-term, cost-per-acre sense. The result is that officials overlook in-fill locations that might satisfy the state's size requirements. In addition, under these current habits, local school officials almost never exert pressure on the state for approval of in-fill sites that, although smaller, may work better for a community overall. This pattern also diminishes the possibility for new schools to serve multiple functions (e.g., as community centers). If smaller sites were chosen, then future schools could come closer to the communities they serve.

The evidence shows that if officials simply chose sites that did not exceed the state requirements, there would be a dramatic reduction in the amount of land consumed by schools, and looking for less acreage, school officials would have many more sites from which to choose. With more options, a district could consider additional aspects of potential school sites. This would result, naturally, in better school location decisions for a community.

Two Current Examples: New Charleston High Schools

Two new high school plans in Charleston County – one currently underway and the other recently approved – exemplify troubling trends related to size, walkability, and hazard routes. First, both schools will use a tremendous amount of acreage for parking spaces. Each school is slated to have roughly 1500 parking spaces; this means that flat top surfacing for parking alone will consume nearly 10 acres.* Looking for ten extra acres increases the difficulty in finding usable land.

Second, the acreage planned for each school is considerably larger than is required by the state. The East Cooper High School is expected to serve 3,000 students: the state requires 60 acres for a high school with a student body of that size. The facility planners, however, want a 100-acre site. The West Ashley school is expected to serve 2500 students: the state requires 55 acres for a high school of that size. The chosen site, which is already under construction, has 84 acres – 53 percent larger than is required.[9]

Third, while the East Cooper site is not yet known, the West Ashley site is clearly not walkable for students. Whether a school is walkable is not a criterion that the Office of School Facilities of the South Carolina Department of Education (OSF) looks for when evaluating a site. OSF maintains a file on every South Carolina school district at its Columbia location, and except for one school evaluation, none of the files on the nine Lowcountry school districts mention whether a site is walkable. The exception was found in the file on the West Ashley site; on the line reserved for the inspector's remarks, it is written, "couldn't walk site." The reason seems clear from the correspondence regarding OSF's reluctance to give its approval for the location. Characteristics of concern were the site's close proximity to CSX railroad tracks, a highway overpass, and the strip commercial development that is anticipated between the site and SC Highway 61.

Fourth, there will be added bus transportation costs from the West Ashley site. (Again, it remains to be seen how well placed the East Cooper site will be – but it is unlikely that many 100 acre-sites will be found in Mt. Pleasant in a location that is safe and accessible for walkers.) It is easy to surmise that the obstacles nearby the West Ashley site will bar even those students living within a 1.5 mile radius of the school from walking. The consequences of these types of plans include more vehicular traffic, which in turn means more transportation costs and more traffic congestion.

*It is interesting to note that, according to a 1973 article, ten acres was the total acreage required for a new high school for over 2,000 students in the city of Philadelphia.

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[9] Compare Charleston are colleges: The College of Charleston has 11,000 students and its campus is only 47 acres; the school supplements its facilities by leasing 17 acres at Patriots Point for athletic use, thus using a total of 64 acres. The Citadel has 6,000 students and its campus is only 176 acres: that includes two large football stadiums/facilities.

CHAPTER 2

SCHOOL SPRAWL

Current School Site Selection Contributes to Urban Sprawl

A combination of empirical and anecdotal evidence support the case that school location can contribute to urban sprawl. While the evidence shared in Chapter 1 is troubling when standing alone, it is particularly problematic as it interrelates with patterns of sprawl. When enormous sites are sought, the "edge of town" is where new schools must go, accompanied by road improvements for buses. A picture emerges of schools being placed in isolated, previously undeveloped land. Pressure follows to develop the nearby virgin land; the introduction of infrastructure accompanies the new school and facilitates the development. The following five sections labeled Explanation I through Explanation V illustrate through observations and examples of common occurrences in the Lowcountry how school location contributes to sprawl and related problems of inaccessibility; the explanations range in nature from financial to cultural.

***Explanation I:* New School Sites Selected by Real Estate Developers.**

> *"The decision to acquire a school site in a particular location generally results in population and property value increases."*
> Joseph Ringers, Jr. CEFPI Emeritus Member, 1972

Local school facility planners take pride securing free or cheap land from real estate developers who are planning to build a new neighborhood. This is understandable given the fiscal constraints that school districts universally experience. The result, however, is a new school location chosen by a real estate developer whose aim is to sell houses; incorporating a school into a proposed new neighborhood is a boon for a developer and explains his willingness to give land free or sell it dirt cheap. "A large, well-developed school site…raises property values of nearby homes, stabilizes the housing turnover rate, and pays for itself in one generation through increased property tax revenues."[10] Thus, a developer might decide to construct new houses in a particular location depending on whether he has arranged to get a new school in his proposed neighborhood. The following paragraphs convey three notable problems with these arrangements.

Free land is often distant from community centers. First, developers naturally construct new neighborhoods in an effort to make a maximum profit. Thus, they regularly develop land that is far from a town center because that land is cheaper. When they give land or sell it cheaply to school districts, schools are located, like the new developments, at the edge of a community's existing development and the edge of the population center served by the school. Located that way, the site in turn leads to additional transportation costs that South Carolina school districts will often overlook because the state, not the local district, covers the majority of basic transportation costs. Moreover, there is an opportunity cost of locating schools at the edge of attendance zones: the possibility for the school to serve as a community center is lost.

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[10] Dr. Karl Grube, University of Michigan, "An Investment Not An Expense."

Free land is not always affordable. The second problem of routinely siting schools at the direction of developers is the added expense of building these "bargain" sites that developers give (or sell cheaply) to a school district. Undesirable soil, low elevation, or heavily wooded areas quickly alter what seemed to be "free" land into a significant and measurable expense.

The Pinckney and Cario schools in Charleston County are recent examples of the unexpected cost of constructing "free" land. While the land for the two schools was gifted in-kind to the school system by International Paper, there were unforeseen costs to constructing the site. The final cost of construction was $5 per square foot more than the original estimate: the increase was caused by the difficult "clay-gumbo" soil at the site. Land for the approximately 250,000 square foot school structures actually cost the school system $1.25 million. In essence, the land cost $12,500 per acre which at the time of receiving the land was arguably more than market price for that end of Charleston County (estimates of the price per acre for land at the nearby Marino Tract ranged from $9,000-$10,000 per acre).

Free land can be oddly configured. The third problem is that when directed by real estate developers, school sites can be oddly configured, thus hampering their accessibility. Real Estate developers can afford to part with less desirable tracts more easily. Again, the Pinckney and Cario schools in Charleston offer a salient example. The school system was originally offered a site that it found outright unacceptable for a new school and then negotiated for a more desirable tract. The site it finally received was still not ideal: it has a long, bottleneck shape that forced construction of the facilities far off the main access road; also, the site is dotted with wetlands.

Explanation II: New Schools Can Introduce Infrastructure to an Undeveloped Area which Invites Unexpected Development.

Schools placed at the edge of a community's existing development can introduce infrastructure and invite development in an area that otherwise may not have developed. "Schools are often the first piece of extended infrastructure put out into the country to stimulate urban growth…Once that school gets put out there, land values go up. If it's undeveloped land, it will become prime property. Then it becomes an almost never-ending cycle that eats up more agricultural land." [11]

Water and sewer providers extend more infrastructure than is needed by school. Along with road improvements, water and sewer extensions most frequently accompany school construction. The impact of extending water and sewer service particularly invites residential and commercial development. Most water and sewer providers in the Lowcountry either have liberal extension policies (i.e., at every opportunity they will try to extend service to areas previously without service) or use economies of scale for capital projects. This means that almost invariably large trunk lines will be extended to schools that are built beyond existing development. Thus, water and sewer service will be provided to a location where it previously was neither needed nor expected. The result is that otherwise rural land that would not have developed is transformed and suddenly desirable for development.

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[11] Cecil Stewart, professor at the University of Nebraska as quoted in *The Post and Courier*, June 18, 1995

Beaufort County's new Whale Branch schools provide a good example. A 16-inch main was recently run to the new schools even though a 12-inch main or, more notably, an on-site treatment facility would have been sufficient for the schools' needs. Upon the decision to connect the school with the local water and sewer authority, future development in that rural area has become inevitable. At that juncture, it was easy to rationalize using the 16-inch main because the marginal cost to use the larger connection was linear while the ability to provide additional service was exponential. The extra four inch circumference means abundant sewer service can be provided to future homes and businesses in the rural area around the new schools.

Extending a larger sewer line makes good efficiency sense for the sewer authority, but sewer and water service officials are aware of the development repercussions triggered by placing new schools in isolated locations that will receive their services. Depending on the governing structure and policies of their organizations, these utility officials contend that they are usually not in a position to deny service to new schools; this is so regardless of their awareness of a location's development implications. Once service is to be provided, the water and sewer providers feel compelled to follow rational economic models and pay the linear marginal costs to provide exponentially more service.

School districts can leverage the financing for sewer and water projects. School districts have the leverage to get financing for infrastructure projects that smaller applicants fail to get. Recent school projects on Lady's Island in Beaufort County provide an example of this. The decision to connect Coosa Elementary and Lady's Island Elementary into Beaufort Jasper Water and Sewer Authority service meant that businesses and developers on Lady's Island, who for some time wanted sewer service but alone could not structure the financing, suddenly got what before they alone could not afford.[12] The result is that Lady's Island will now develop in ways that it otherwise was able to resist without the sewer service.

Dorchester 4's new Timberland High School provides another example of a school project enabling the financing to bring water and sewer to an undeveloped area. There, the school system was budgeting for an on site sewage treatment facility at the new Woodland High School because the district, working alone, could not afford tying into the Dorchester County Water and Sewer Authority. The county government had wanted to get water and sewer extended throughout the county. With the school district's resources and the new high school as the right opportunity, a deal was reached that financed the water and sewer extension to the new school by using grant money, school money, and county money. School districts undoubtedly enable such projects where other entities often cannot.

Water and sewer can alter existing neighborhoods and spark future ones. When a new school is connected to central water and sewer services, the residential patterns of the surrounding area can be transformed. The Waccamaw Schools in Georgetown demonstrate this. When these schools were built the Georgetown County Water and Sewer Authority provided them with sewer service. Before the elementary school was built, Hagley Estates, a nearby neighborhood, was being serviced by individual well and septic systems; thus, only one home was permitted per acre. After the school was built, however, the nature of residential development in the area was transformed. Hagley Estates experienced considerable new construction as the new water and sewer service permitted homes on quarter-acre lots. New neighborhoods also quickly followed the construction of the high school such as Pawley's Retreat, Ricefields, and Mill Creek.

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[12] Lolita Huckaby, "Lady's Island Wary of New Development," *Beaufort Gazette*, January 10, 1996.

Explanation III: A New School Can Re-characterize an Area and Trigger Development.

New schools attract residents and thus can re-characterize an area. As developers have clearly realized, people often like living near schools. Thus, a new school can impact an otherwise sparsely populated and slowly developing area by stimulating more development or reversing a drooping housing market. Thus, the introduction of a new school can bring unexpected development booms.

Perhaps the best example of this is found in Dorchester School District 2 where first, in 1991, Windsor Hill Elementary opened and then, in 1992, Fort Dorchester High School opened. Realtors who work in the area explain that the new schools attracted new residents to neighborhoods like Whitehall, Windsor Hill, Indigo Fields, and Coosaw Creek. Since the early 1990s that area near the connection of Ashley Phosphate Road and Dorchester Road has developed rapidly. The new Lady's Island schools in Beaufort are also good examples of schools re-characterizing an area.

Explanation IV: Annexation of Schools into Municipalities Facilitates Development.

A town can easily annex a school located on its outskirts, and this in turn can facilitate development of an area contiguous to the school that otherwise should not urbanize. When a school is annexed into a municipality, it can help landowners develop their property in a way that was impermissible to them previously under the county's development restrictions. This occurs where a municipality has development restrictions that are more lax than the county.

Under South Carolina law, a town can annex a school without much obstruction because schools have no assessed property value. Municipalities are allowed to annex school property when it is contiguous with the municipality's limits; thus, when a school is located on the outskirts of a town, elected officials encounter virtually no barriers in annexing the school. Once a town annexes a school, it is then easy for a contiguous landowner – dissatisfied with restrictions on development that he may confront from the county – to join the municipality. Under South Carolina law, landowners with property contiguous to a town can petition to be annexed into the city as well. Thus, school location can be a mechanism used by real estate developers to choose the best jurisdiction for their development goals and to circumvent rural development restrictions.

A good example of this is in Beaufort County where the new Beaufort High School is located just outside of the Beaufort City limits on Lady's Island. Recently, the Beaufort City Council proposed to annex both the school and additional land contiguous with the school farther onto Lady's Island. This is frustrating for Beaufort County officials who, after settling on a different image of development than that of the City of Beaufort, passed stricter development restrictions than the city of Beaufort. Because Lowcountry schools are routinely located at the edge of existing development, such a scenario can occur easily and often.

Explanation V: Design Criteria of Schools Contribute to Sprawl.

The design criteria of schools themselves can contribute to sprawl. These criteria regularly include space requirements that force schools to go to the edge of town. This is largely attributable to cultural pressures that influence the image of what a "good school" looks like. That image includes a big, sprawling campus with plenty of parking and new athletic fields. When school officials look for a site to suit this image, the old adage could apply: *bigger is better*. "You get caught in a paradigm of bigness. Big site. Big bus fleet. Big number of specialized activities. Schools are public institutions. They should reinforce the community, not go on the cheapest site available."[13]

Size outweighs other criteria. Enormous size is a site criterion that seems to trump all other attributes of a potential school site. This leaves school officials with very few options because so few enormous sites are available. Those enormous sites that are available are inevitably not centrally located nor close to other community facilities; essentially, they are not good options for a well located school *except* for the fact that size seems to outweigh all other desirable attributes.

Lowcountry school planners are transparent about the size priority. Recently, the *Post and Courier* asked a Charleston County school planner why the school system was looking for 100 acres for the new East Cooper high school when the state requires only 60 acres for the planned school. According to *The Post and Courier*, he answered, "the district wants more than the minimum amount of land because the school…will be relatively large."[14] In another district, an official explained that if 17 acres are needed for a new school, the district will round up and looks for 20 acres instead. There is quite plainly an absence of efficient land use when school sites are sought, and this leads to sites that do not reinforce community involvement.

There are three additional reasons that the culture of school site selection leads to increasingly large sites:

Large parking lots. First, school planners are including more parking spaces in the site designs for new schools. The root of this trend has many sources: more high school students (especially at suburban schools) are driving themselves to school; parents encourage their children to drive to school; and no creative transportation alternatives are being posed for public schools. Some argue that providing more parking merely reflects the American value placed on mobility and independence that our cars seem to bring, and the provision of more and more parking is thus culturally entrenched.

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[13] Jonathan King, Texas A&M School of Architecture as quoted in the *Post and Courier*.

[14] "Farm Tract on list for school site," *The Post and Courier*, August 15, 1999.

Providing several acres for paved parking lots, however, presents many problems. It consumes precious land, limits choices for school officials looking for new school sites, and dampens efforts to improve transportation options for high school students. Worst of all, perhaps, is the increased traffic congestion that results from so many added vehicles that the large school parking lots invite; with the added congestion comes not only lost time and added aggravation, but environmental costs to air and water quality borne by all in the community.

Attracting industry. The second influence on the culture of site selection is the belief that big schools attract industry. Schools are definitely a key criterion that industry representatives will evaluate when deciding whether to expand into a new area. However, often the only assessment of a school system by a visiting representative is a "windshield tour." One education expert explained this technique as an understandable quick litmus test used by corporate representatives to determine whether a community values education and is willing to invest in it. Because school facility planners ideally want schools that are attractive to prospective business, meeting the stereotyped image of what a good new school looks like – suburban, one story, sprawling large campus – becomes a goal for school planners.

Making schools appealing to industry is reinforced by economic development officials at the state level. For example, a local school official reported that a South Carolina Department of Revenue presentation emphasized these points regarding the interplay between new schools and attracting prospective industry.

Acreage requirements. The third cultural influence on school site selection is minimum acreage requirements. These help instill school officials with a belief that sites should be large and never smaller than a certain size. State and Lowcountry school officials cannot name the goals attained by the specific acreage requirements used in South Carolina. Most school officials, however, are at least somewhat aware of and respect the Council of Educational Facility Planners Institute from whom South Carolina adopted its acreage requirements. School officials do not question the recommendations of the Arizona based organization.

Schools Attract Development

Example from the Beaufort Gazette

A 1996 *Beaufort Gazette* article provides a good picture of how schools placed in rural areas, away from existing development introduce infrastructure that invites new development. The article demonstrates that school officials not only recognize that schools spur development but that they count on it. The article details the Beaufort County School District's plan for a 100-acre, three-school campus in the Bluffton area at the site known as the Buckwalter Tract.

Described as a "premium location" because it is situated on high ground with good soil and no wetlands, the area was not planned for development by Union Camp, the real estate development company that gifted the land in-kind to the school system. Union Camp's projects manager explained to the *Beaufort Gazette* that "*we have no eminent projects on the Buckwalter Tract. The school project is being driven by the school people*."

While Union Camp does have plans showing future residential development around the schools complex over the next 40 years, the development company had no definite, foreseeable projects in that area. Asked if he was concerned about this, Herman Gaither, superintendent of the Beaufort County School District, told the *Beaufort Gazette*, "That's going to happen wherever we put a school…Schools attract development, and then schools are filled."[15]

Predictions Do Not Account for Effect New Schools Have on Actual Future Growth

When school officials estimate the number of students for whom a new school should be built, they regularly underestimate. That is due in part to officials' failure to account for the effect that a new school itself will have on attracting more residents to an area. As a result of a new school's effect on development, that new school may open its doors for the first time with its enrollment at or beyond maximum capacity.

A development synergy of sorts can trigger this phenomenon. Essentially, breaking ground on construction of a new school both attracts new residents and impels developers to construct new neighborhoods or more rapidly build-out the projects they have initiated. The result is that predictions used by school officials for new school populations are too low.

There are examples of this phenomenon in the Lowcountry. The new West Ashley High School is currently under construction in Charleston County with plans to open for the 2000-01 school year. This high school is to serve 2500 students, yet local officials report that plans for new trailers are already in the works indicating that school officials are realizing (while at mid-construction) that the growth projections they used were too small. In Horry County, two of the Carolina Forest Schools were constructed recently (elementary 1996 and middle 1997) to relieve capacity at other schools; when the Carolina Forest schools first opened they were at capacity immediately even though they were constructed with the intention of expanding enrollment in the future. In 1991, Berkeley County School District began construction on Devon Forest

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[15] Morris, Frank, "County Envisions 3-School Campus," *Beaufort Gazette*, February 1, 1996.

Elementary. The school was built for 750 students but opened for the first time in 1992 with an enrollment of 850 students, almost 14 percent more than school officials predicted.

Racial Integration Goals Outweigh Sprawl Concerns

Occasionally in the Lowcountry, new schools are located in a rural or undeveloped stretch that otherwise would not develop, yet the sites make sense for reasons of racial integration. In those situations, goals of racial integration outweigh concerns regarding sprawl. In addition, force of law will require that some seemingly isolated sites be chosen for new schools to satisfy the obligations of court orders and consent-agreements relating to desegregation that the United States Department of Justice (DOJ) supervises in the Lowcountry. Some Lowcountry counties, like Georgetown and Colleton, are under continuing close scrutiny by DOJ for failing to properly integrate their schools. Carvers Bay High School in Georgetown County is an example of this. Consolidating Choppee High School (mostly African American student body) and Pleasant Hill High School (mostly white student body), the new site, now under construction, is in undeveloped area but equidistant from two existing student bodies that will now be integrated.

GIS Maps Show Placement of Schools in Relation to Development[16]

Geographic Information Services (GIS) maps provide partial evidence suggesting that schools have contributed to sprawl. These maps are not, however, conclusive on the matter and are at times ambiguous at best in probing the issue of whether schools trigger sprawl. On the other hand, the maps are very helpful in evaluating whether schools were initially located amongst development or on the outskirts of existing development.

The maps show urban development. Development is indicated by the red and blue colored areas: the red shows old development that existed at least prior to the year of the image, and the blue shows new development that has occurred since the previous photo. Essentially, the NASA images showed all hard surfaces: thus, "development" simply means land where hard, constructed surface now exists (i.e., fields and forest replaced by concrete, asphalt, or buildings). The maps also contain hollow circles showing the sites of future schools and flags marking the same location once the school is constructed. Unfortunately, the key years of 1994 to 1999 are not available; images of the other Lowcountry counties are also not available.

Beech Hill Originally Placed Away from Existing Development

Map 1 shows Beech Hill in Dorchester County School District 2, located outside of Summerville. The images show that the school was placed away from the bulk of development in the area, and that there was not much development in the vicinity of the future site before the school was built. Realtors indicate that growth since 1994 (unfortunately the final year these satellite photos were available) has been rapid, but prior to that residential development around Legend Oaks golf course lagged. The new school is seen as one of the reasons for a market turnaround there.

The images show that not much development occurs around the future school site in 1989 and 1990. In 1992, Beech Hill was opened and new development suddenly appears near the school and some development continues to be seen in the 1994 shot. (See Map 1 on the following page.)

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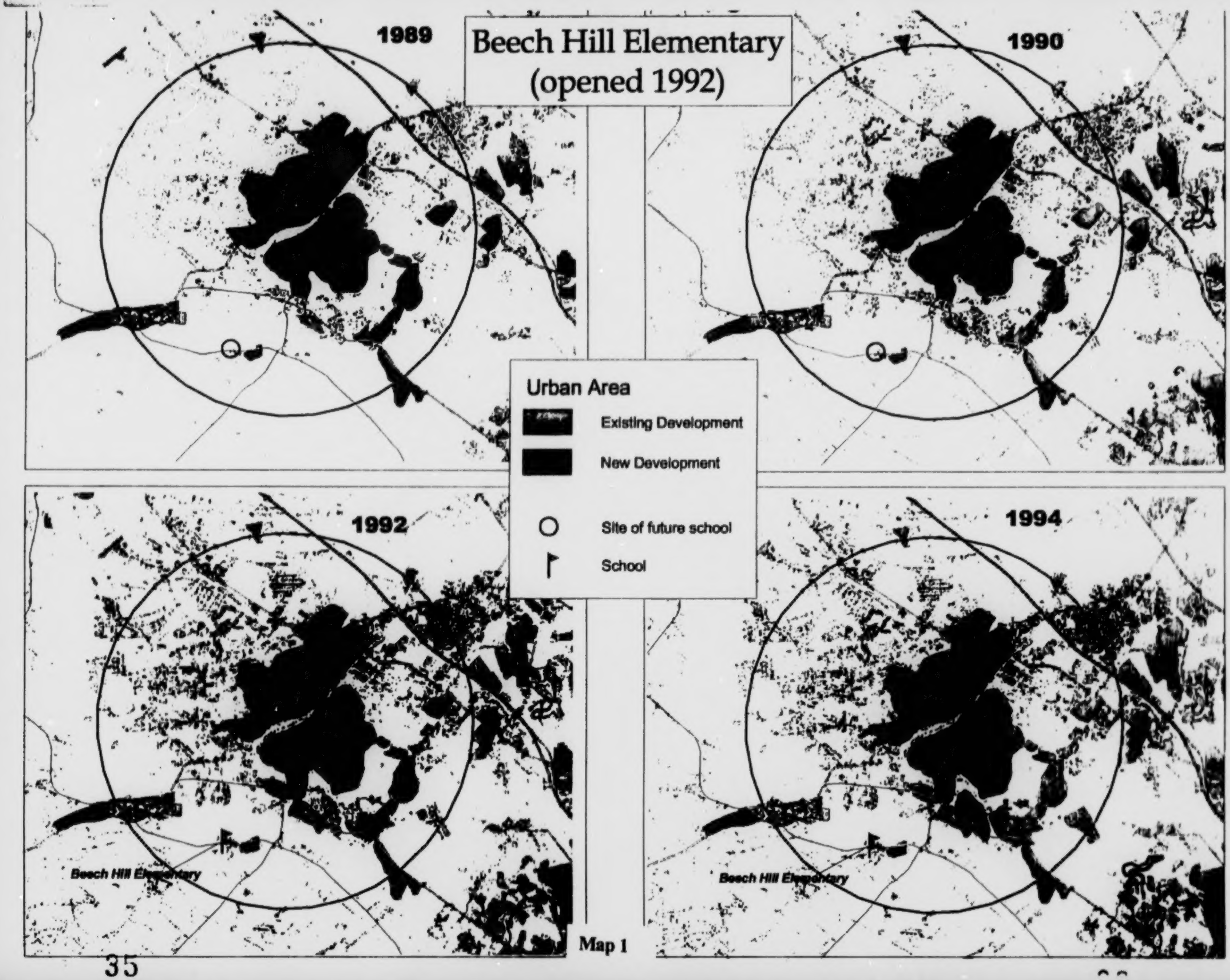
[16] Craig Campbell of the South Carolina Coastal Conservation League created the maps that are interspersed between the following pages of brief text. He used satellite photographs taken by NASA of Berkeley, Charleston, and Dorchester counties (the tri-county area) that display any urban development that occurred from 1973 until 1994.

Beech Hill Elementary
(opened 1992)

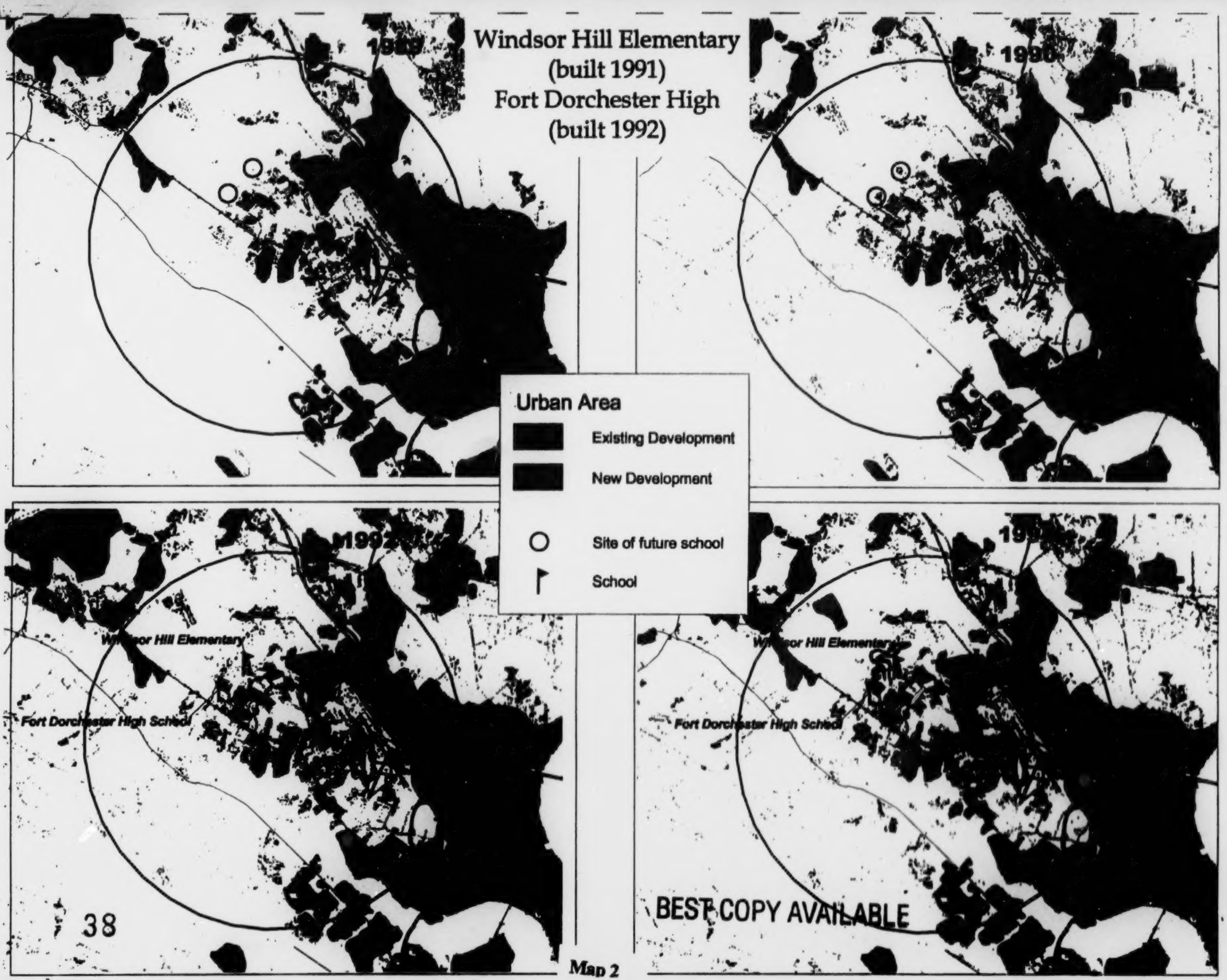

1989
1990
1992
1994
Urban Area
Existing Development
New Development
Site of future school
School
Beech Hill Elementary
Beech Hill Elementary

Map 1

Fort Dorchester High and Windsor Elementary Located at Edge of Development

Map 2 shows the Ashley Phosphate Road corridor, the vicinity of Fort Dorchester High School and Windsor Hill Elementary. These schools appear to be located at far ends of existing development as seen in the 1990 map. Realtors feel that the area was greatly re-characterized by the introduction of the new schools and that the schools sparked development in an area marked by a sagging housing market. Since the schools were built in the early 1990s, the area has transformed into one of the county's hottest markets. Between 1990 and 1992, the maps show some new development was experienced in the area, but the jump from 1992 to 1994 appears considerable. At that point, arguably the effect of the schools is beginning to show. (See Map 2 on the following page.)

Windsor Hill Elementary (built 1991) Fort Dorchester High (built 1992)


1989
1990
1992
19
Windsor Hill Elementary
Fort Dorchester High School
Windsor Hill Elementary
Fort Dorchester High School
Urban Area
Existing Development
New Development
○ Site of future school
School

Map 2

BEST COPY AVAILABLE

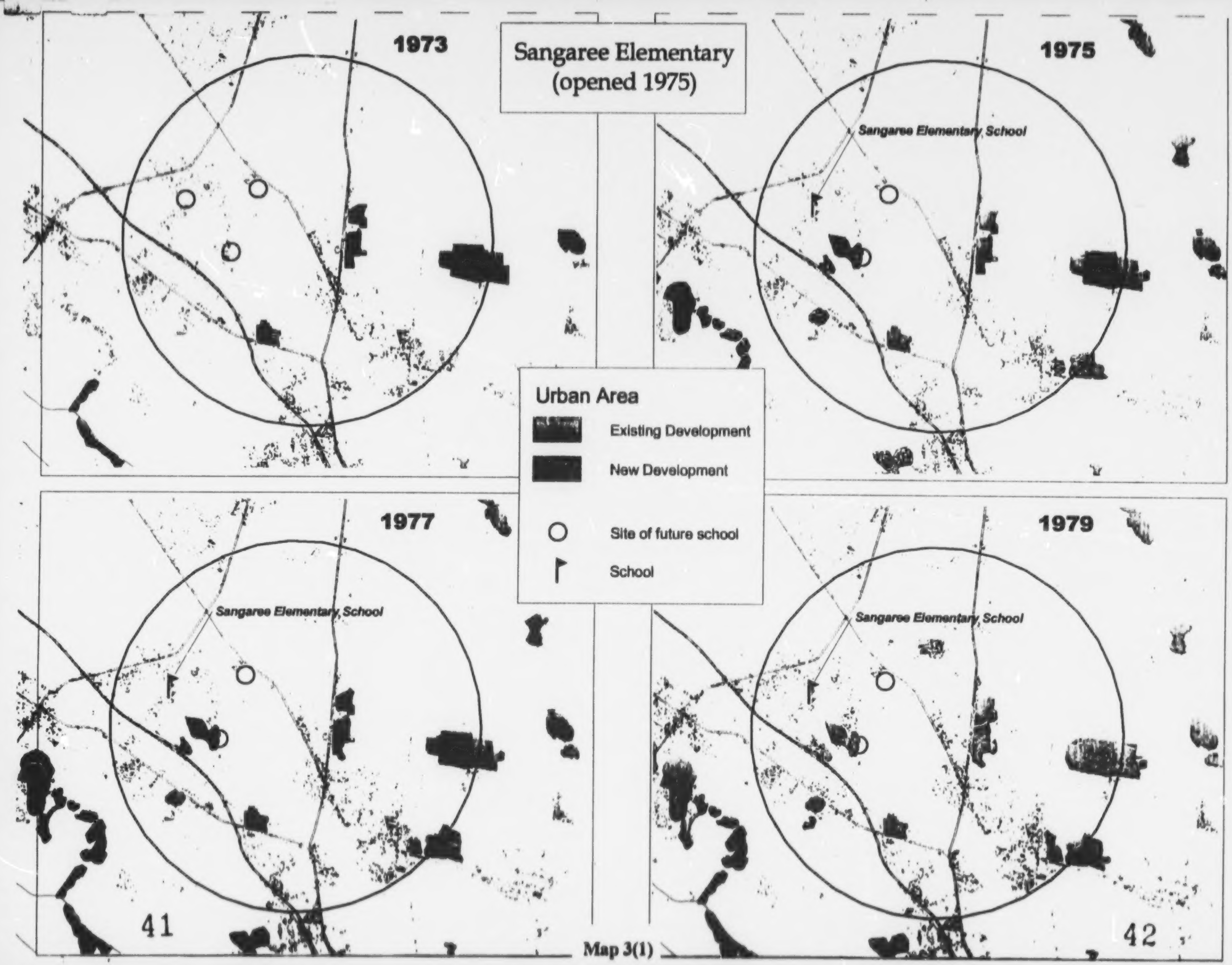
Relationship of Schools to Development in Goose Creek is Unclear

Map 3 (comprised of three pages) shows the Goose Creek area in Berkeley County. Map 3(1) shows how Sangaree Elementary appears to have been placed in an isolated location, away from dense development. Map 3 (1) also shows development that came up in the vicinity of Stratford High School, but none pops up around the future site of Devon Forest Elementary through 1979, the last year on Map 3 (1).

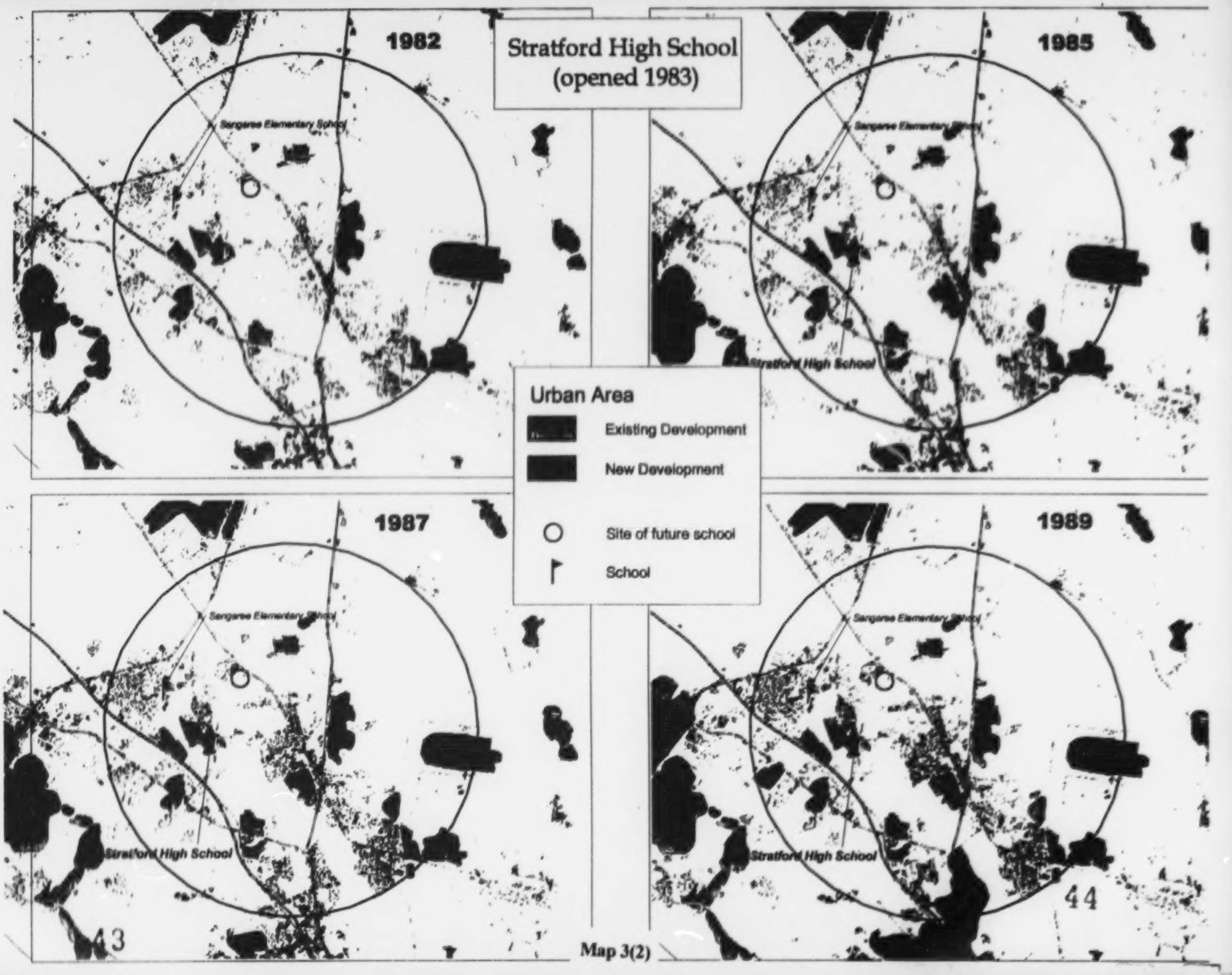
It is difficult to interpret development in relation to Stratford High School; Map 3 (2) does not reveal much new development. Realtors, local planners, and developers, however, attest that Stratford High School has been a strong attraction for residents when they considered moving to the area and new construction at Crowfield Plantation was linked to that popularity. While Map 3 (2) does not show much growth around Stratford, by 1990 new growth seems rapid in the areas just southeast and north of the high school as seen in Map 3 (3). That growth continues in 1992 but then does not change in 1994.

The development trends around Devon Forest are not clear. Map 3 (2) shows the first signs of mild development, but overall the earlier years show that the Devon Forest area was not growing like the town of Goose Creek that is at the center of the map. Considering the 1990 and 1992 images, it is difficult to know if that jump occurred in relation to the construction or opening of Devon Forest in 1991. Arguably, there may have been a relationship between the growth in that vicinity and the school's coming presence. Viewing the greater Goose Creek area, however, it could be argued that Devon Forest is at an in-fill site and not poorly located. It is worth mention that school officials expected far fewer students to enroll at Devon Forest than actually did, supporting the theory that schools themselves add to the residential expansion of an immediate area. (See Map 3 (1-3) on the following three pages.)

Sangaree Elementary
(opened 1975)


1973
1975
1977
1979
Sangaree Elementary School
Urban Area
▨ Existing Development
■ New Development
○ Site of future school
School

Map 3(1)

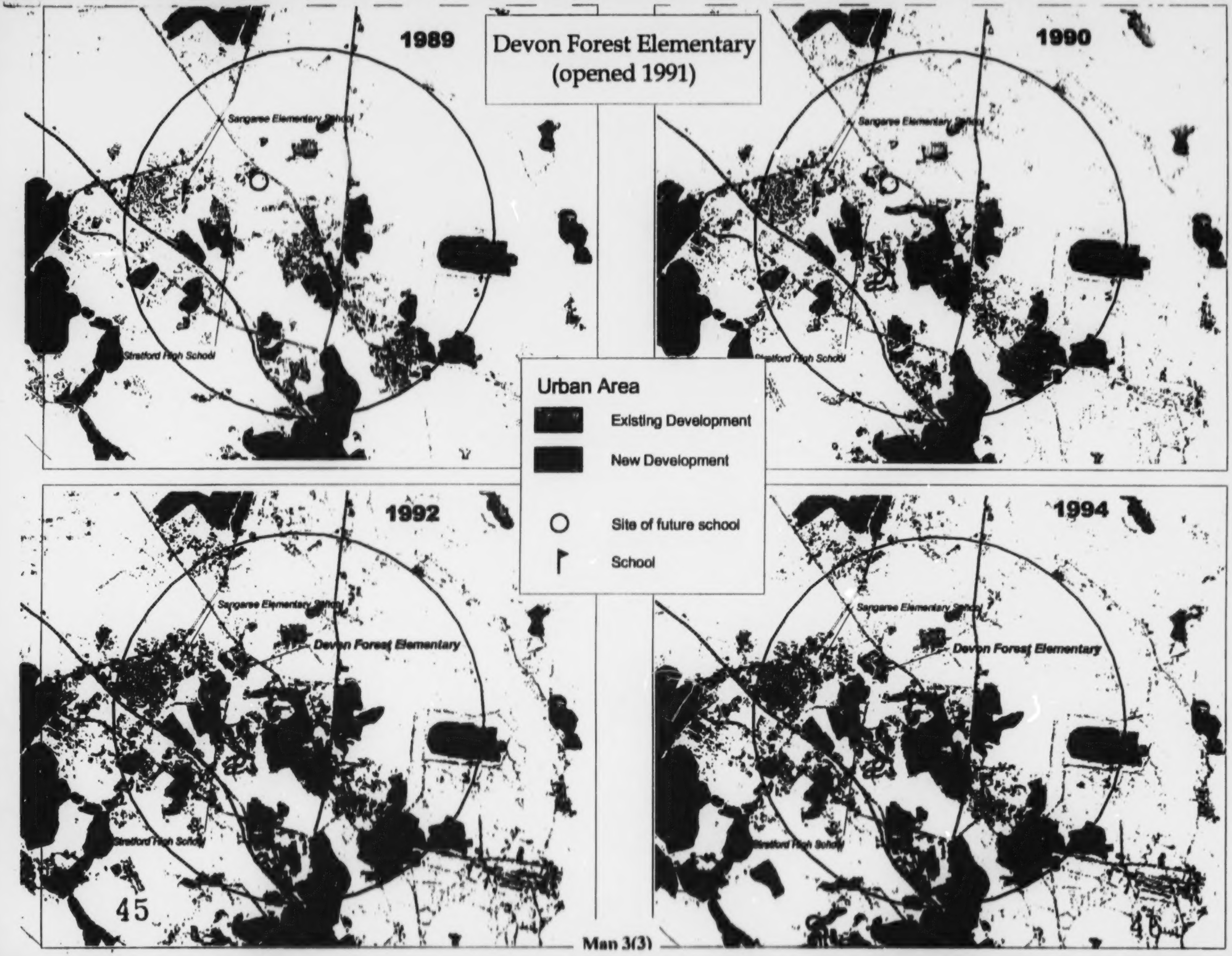


Stratford High School
(opened 1983)

1982
1985
1987
1989
Sangaree Elementary School
Stratford High School
Urban Area
Existing Development
New Development
Site of future school
School

Map 3(2)

Devon Forest Elementary (opened 1991)


1989
1990
1992
1994
Sangaree Elementary School
Stratford High School
Devon Forest Elementary
Urban Area
Existing Development
New Development
○ Site of future school
School

Man 3(3)

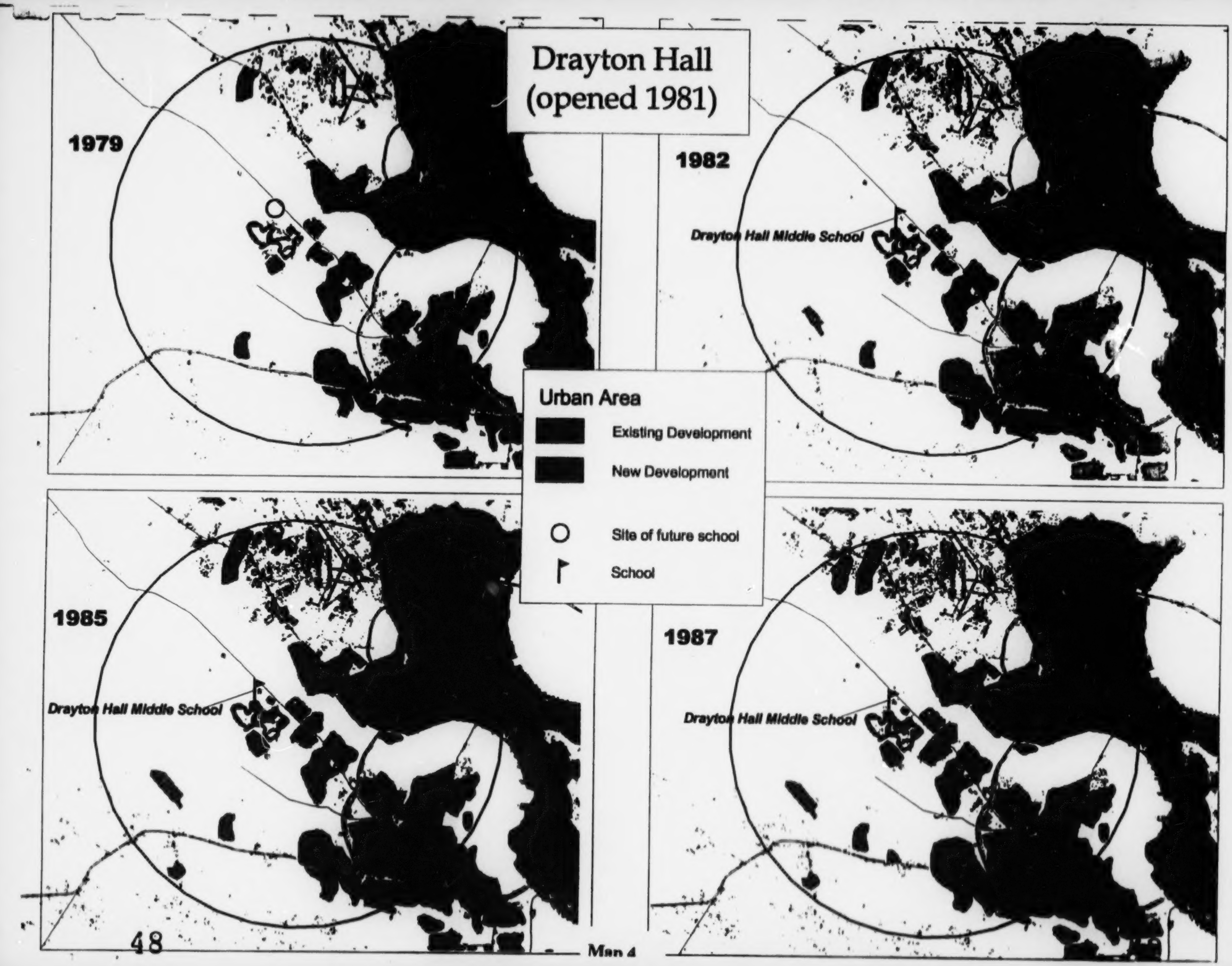
Drayton Hall: Dramatic Example of Original Placement on the Edge of Development; Pepperhill's Peripheral Location Less Pronounced

For Drayton Hall and Pepperhill, in addition to the GIS images, I included aerial photographs on the following pages. These photos, taken by the U.S. Department of Agriculture (USDA) and maintained at the USDA's Charleston County Soil Conservation Office, are available for 1983, 1989-91, and 1994.

Map 4 and the first series of photographs clearly display how Drayton Hall Middle school was isolated and placed on the edge of development. The photographs of Drayton Hall in particular dramatize the problem discussed throughout this report: instead of placing it amidst the community it will serve, officials placed it immediately next to hundreds of acres of pristine forest. On the "developed" side, the school abuts a cemetery, and other development then appears further south towards Charleston.

Map 5 and the second series of photographs similarly show how the location of Pepperhill Elementary at first was similarly on the edge of development. Unlike Drayton Hall, however, the Pepperhill vicinity rapidly develops. The early photos of Pepperhill are most illustrative of its peripheral placement. (See Map 4 and the first series of photographs and then Map 5 and second series of photographs on the following 7 pages.)

47


Drayton Hall
(opened 1981)

Urban Area

■ Existing Development

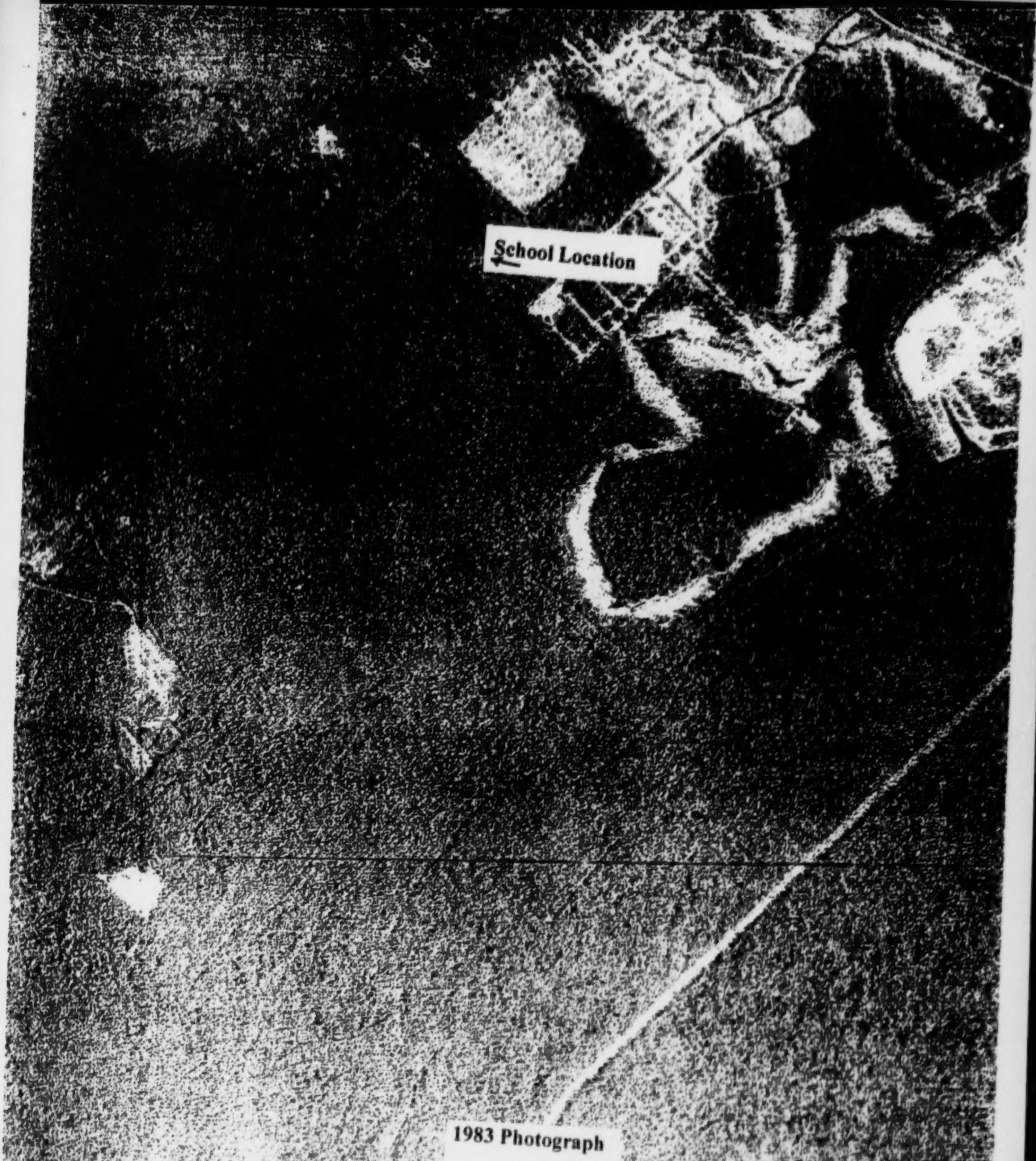
■ New Development

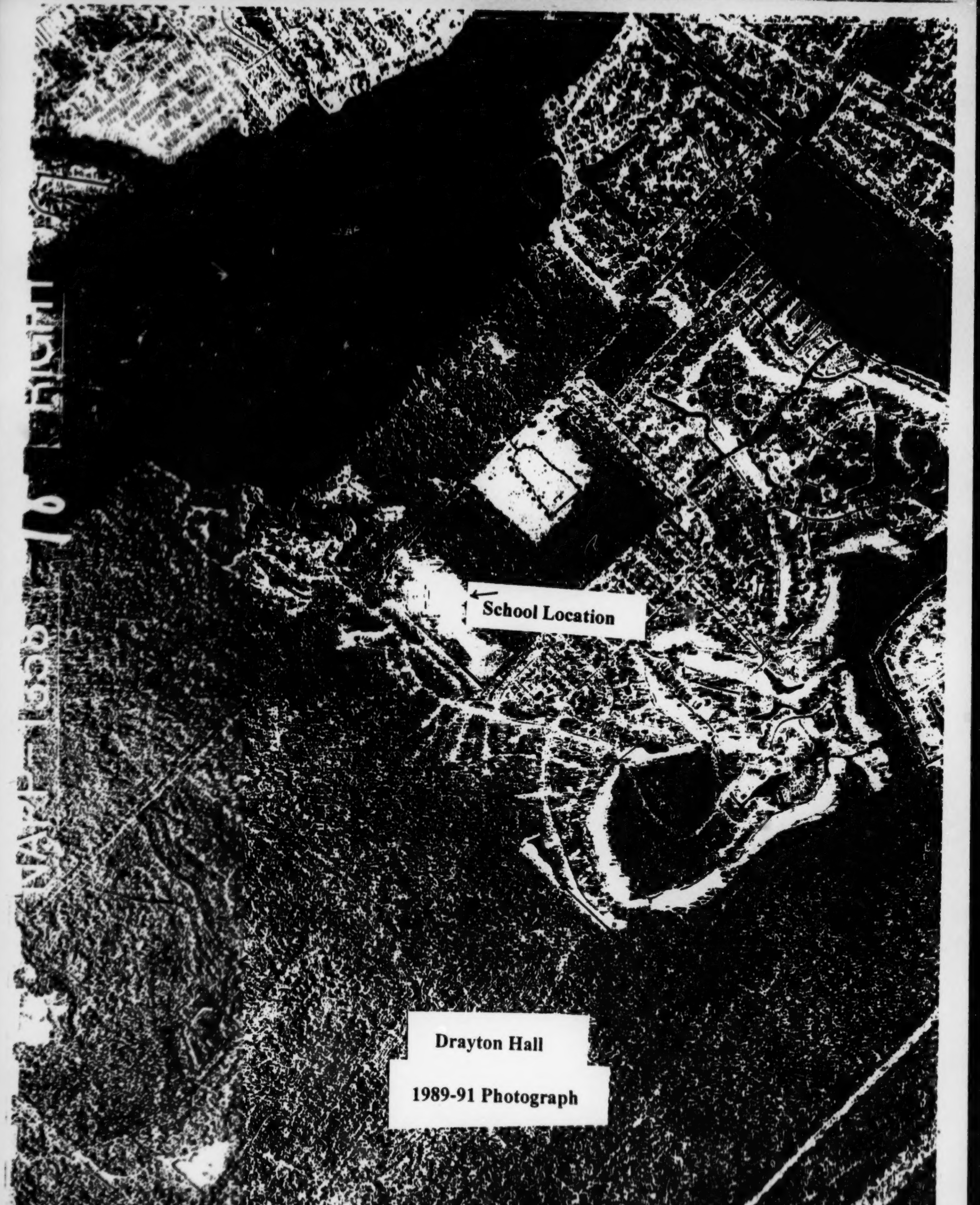
○ Site of future school

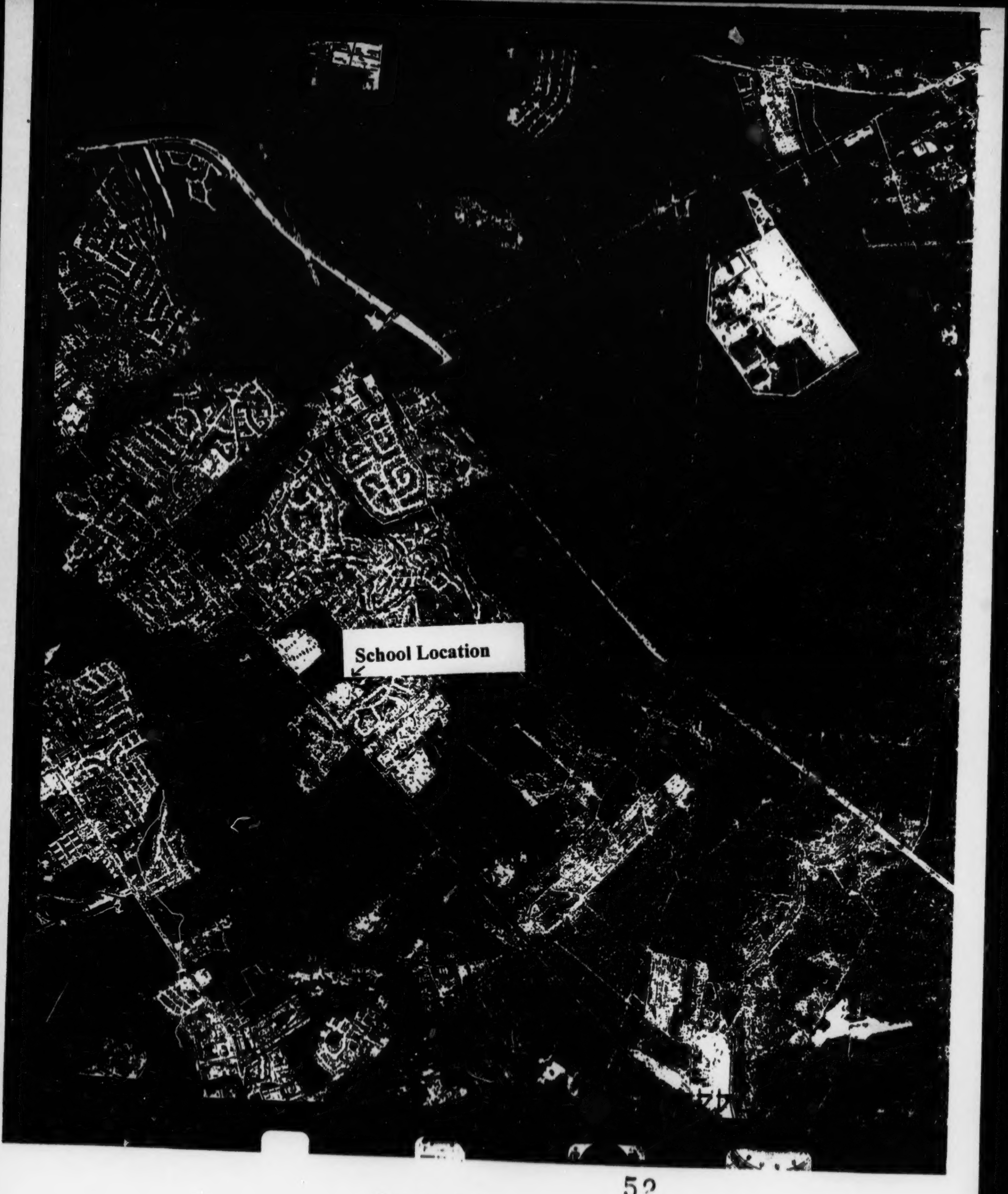
School

1979
1982
1985
1987
Drayton Hall Middle School
Drayton Hall Middle School
Drayton Hall Middle School

Map 4


School Location
1983 Photograph
Drayton Hall

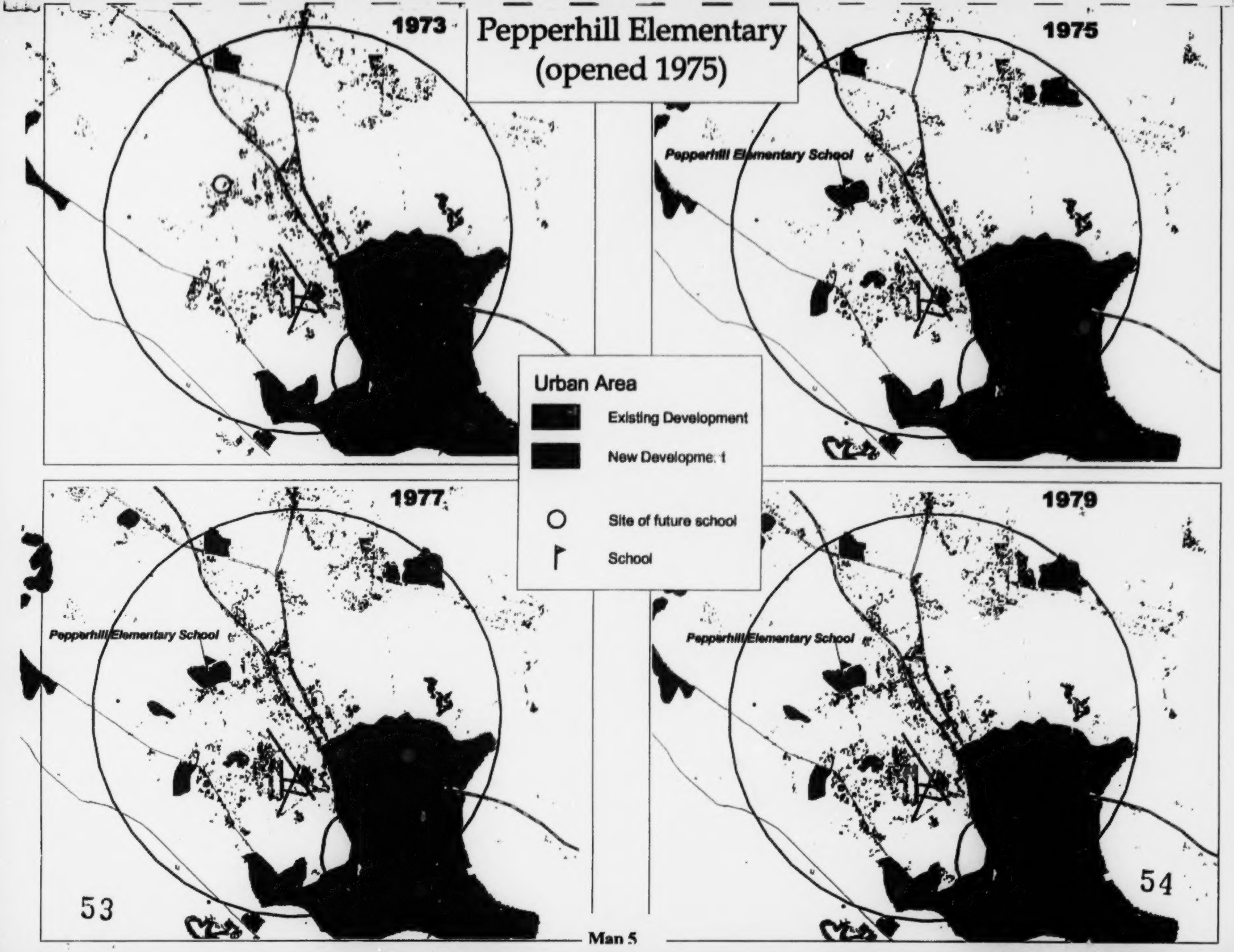

School Location
Drayton Hall
1989-91 Photograph


School Location

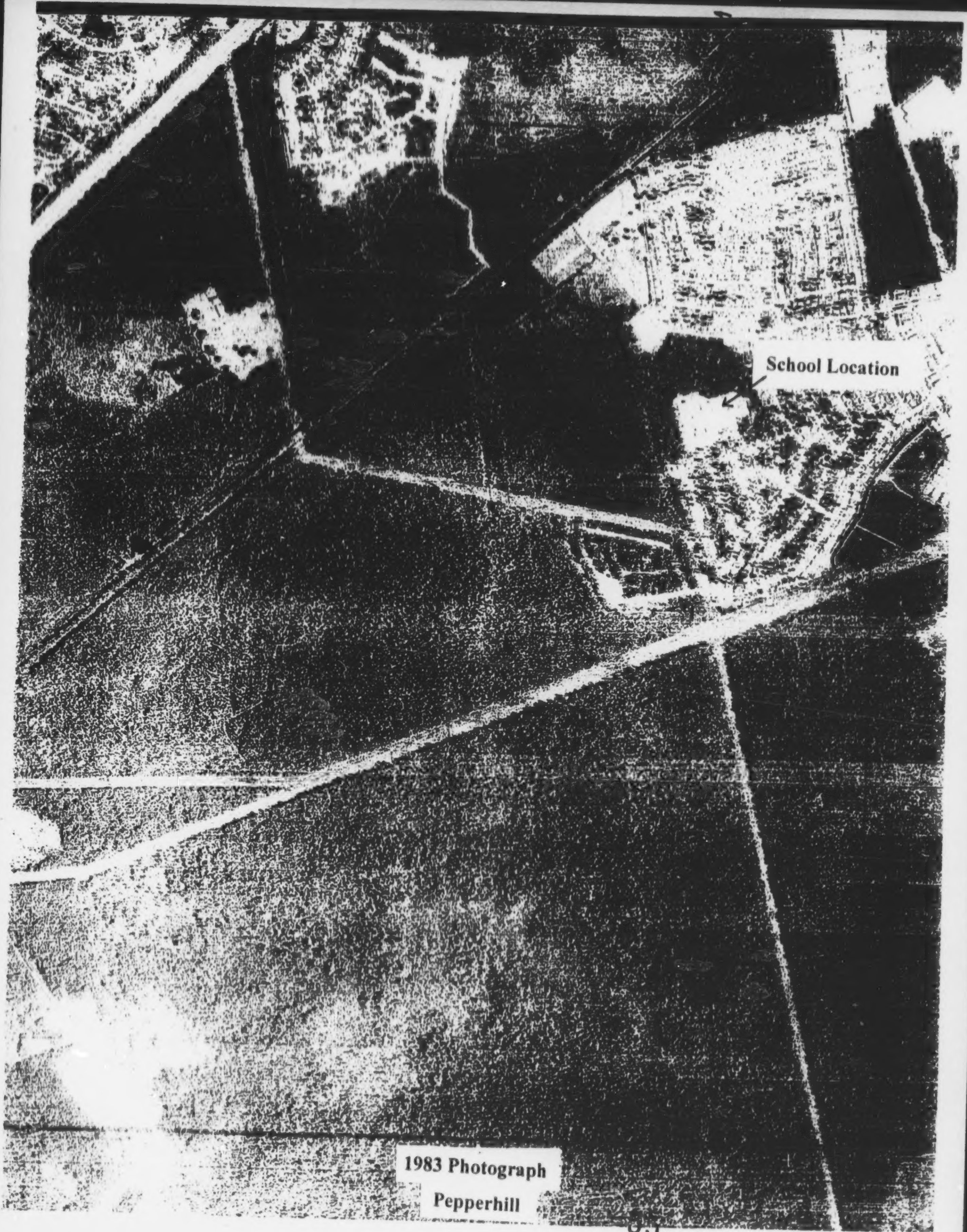
Drayton Hall

1994 Photograph

Pepperhill Elementary (opened 1975)

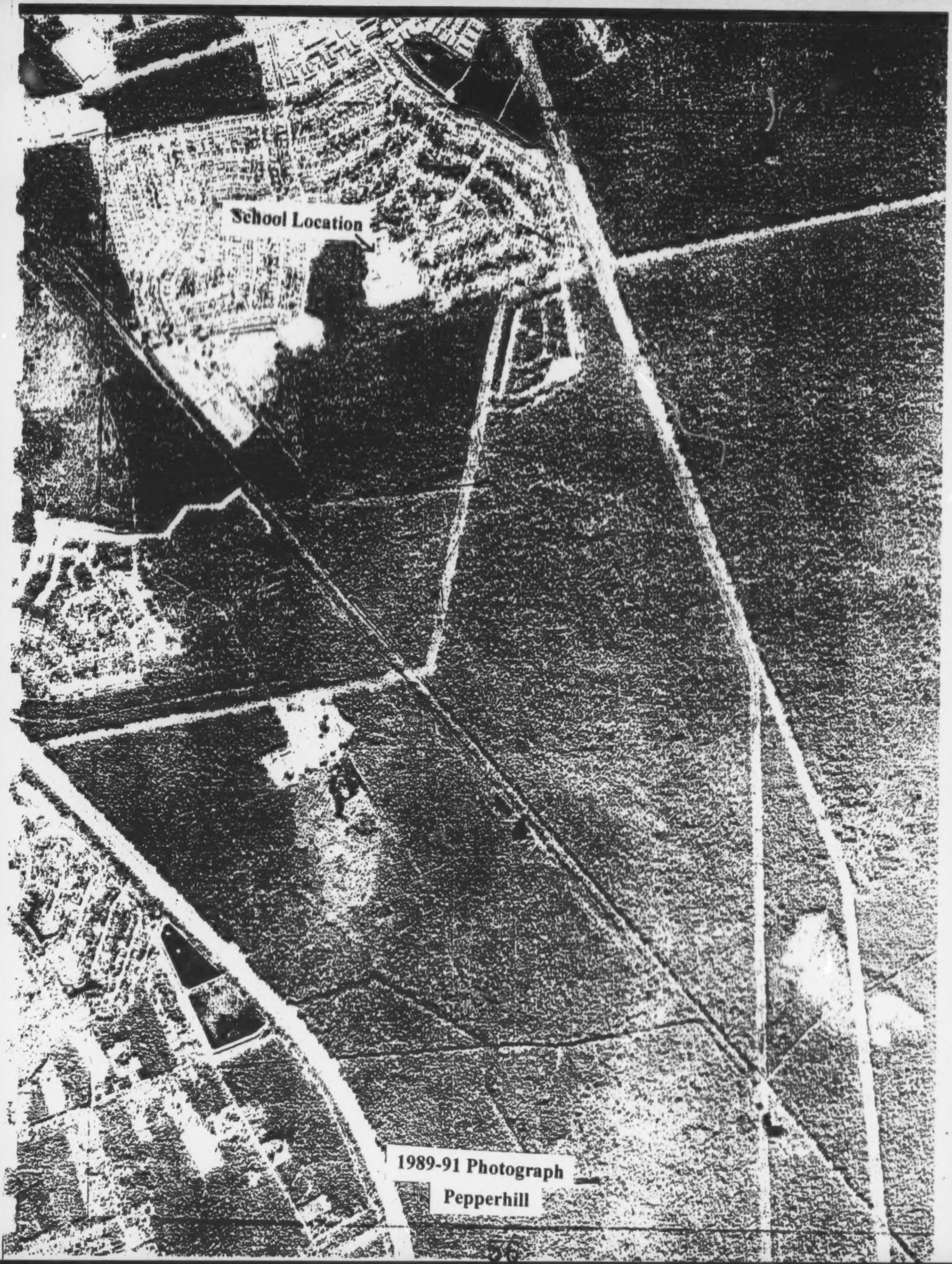

1973
1975
Pepperhill Elementary School
1977
Pepperhill Elementary School
1979
Pepperhill Elementary School
Urban Area
▇ Existing Development
▇ New Development
○ Site of future school
School

Map 5


School Location

1983 Photograph

Pepperhill


School Location

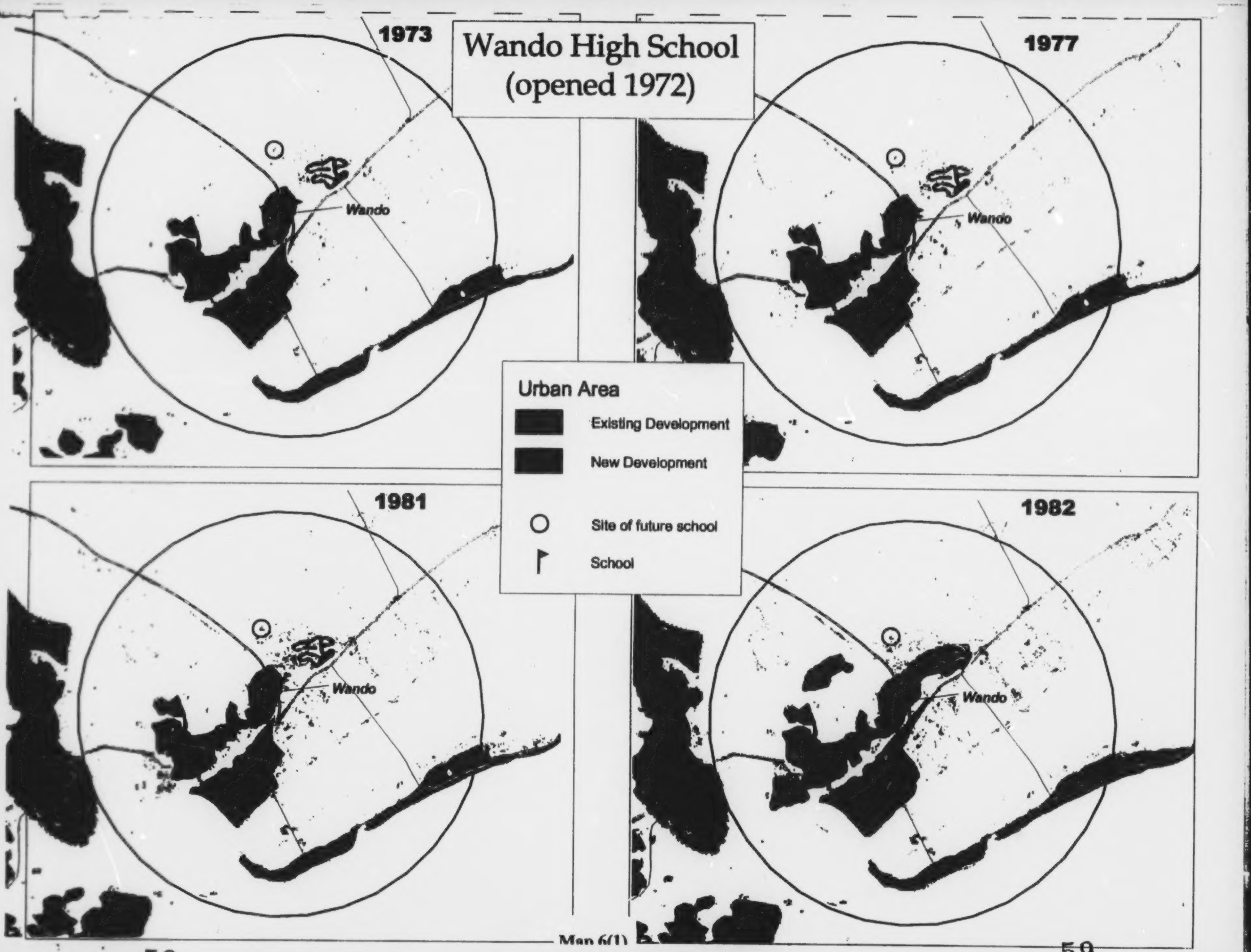
1989-91 Photograph

Pepperhill

Belle Hall Explodes and Development Sprawls Beyond Wando

Map 6 (1) and (2) show the Mount Pleasant area. City planners and school officials indicate that the area around Belle Hall Elementary School is one of the most explosive in Charleston County. The process and outcome of Belle Hall's location was perhaps exemplary. The location is, relatively speaking, an in-fill spot; it jointly uses city recreational fields next to the school property. Most notably, the school location resulted from the collaboration of school officials, Mt. Pleasant city planners, and the real estate developers who had approval for considerable residential construction projects in that area. Map 6 (2) shows the popularity of the Bell Hall area to which observers claim the school contributed. In 1990, development begins and continues to be visible on through 1992; the dense blue of the 1994 image shows the tremendous growth occurring by then.

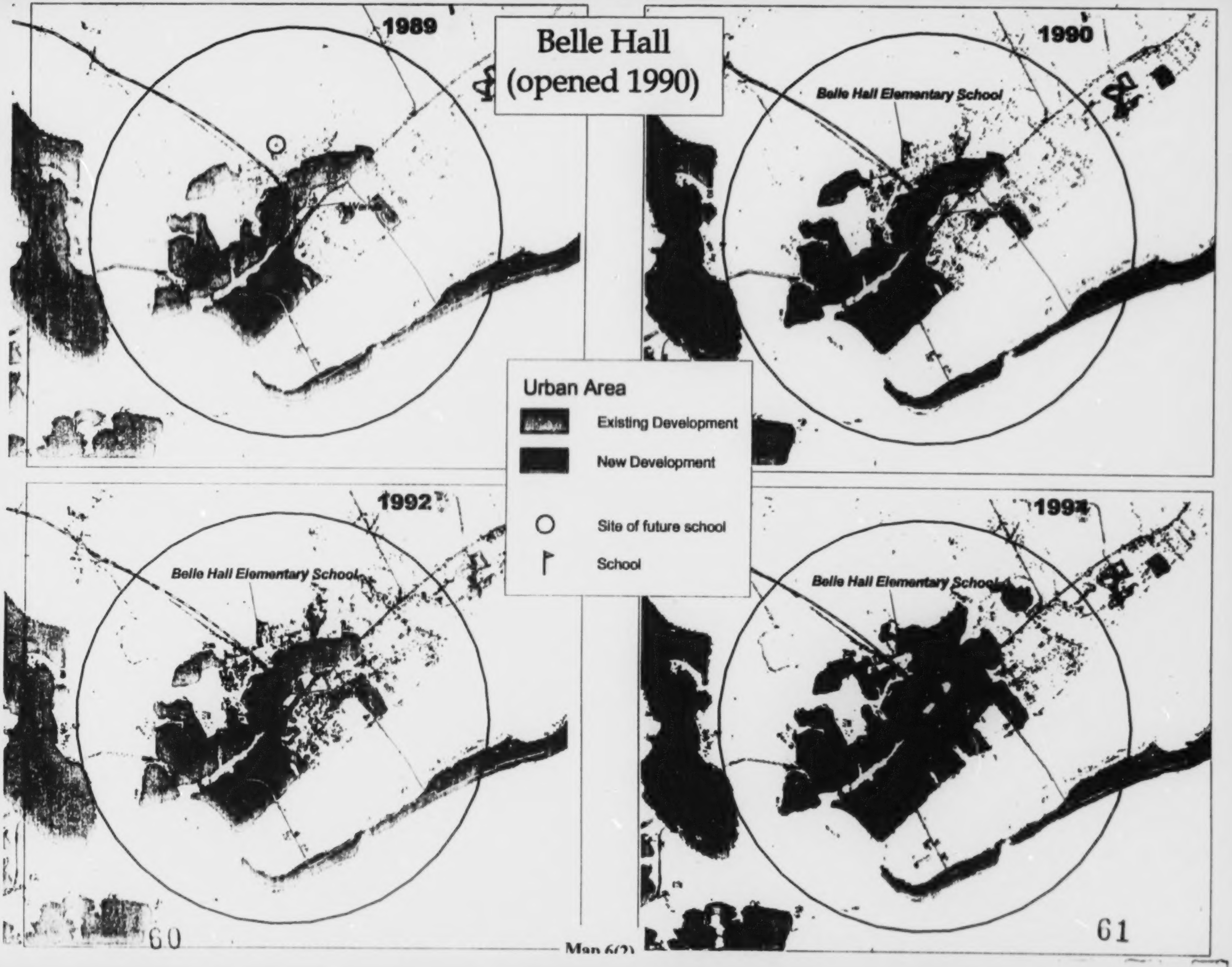
Map 6 (1) shows how Wando High School was located on the edge of existing development when it was built. The 1981 and 1982 images show how development begins to creep beyond the high school. By the later years seen in Map 6 (2), the new growth has greatly surpassed Wando. If Mt. Pleasant and Charleston County are serious about limiting development up Highway 17 North and adhering to their urban growth boundary at Darrell Creek Trail, they should consider these images. If located far away from Mt. Pleasant's town center, the impact that the new East Cooper high school might have on spurring distant development could be profound. (See Map 6 (1) and (2) on the following two pages.)


1973
1977
1981
1982
Wando
Wando
Wando
Wando
Urban Area
Existing Development
New Development
Site of future school
School

Wando High School
(opened 1972)

Map 6(1)

Belle Hall (opened 1990)


1989
1990
Belle Hall Elementary School
1992
Belle Hall Elementary School
1994
Belle Hall Elementary School
Urban Area
▨ Existing Development
■ New Development
○ Site of future school
School

Map 6(2)

CHAPTER 3

THE CURRENT PROCESS

School sites in the South Carolina Lowcountry
are selected without any thought of comprehensive land use planning

South Carolina law authorizes the state to approve sites, but local school districts primarily control the site selection process. With great autonomy, local districts are not obligated to work with local planners or other government officials on selecting a new site, and they need not ensure that school locations fit into a community's overall comprehensive development plan. In addition, no district voluntarily makes working with local planners a practice. The actual steps a district takes in choosing a site vary among the districts, but there are some state regulations that a local school district must follow. The clearest of these is the acreage requirements, the only reprieve from which is an ineffectual and unclear waiver process.

This chapter sets out the current process of site selection. It begins with an overview of the relationship between local school districts and the South Carolina Department of Education and highlights the absence of land use planning in the site selection process. The chapter then discusses other authorities that can influence site decisions, followed by a discussion of how the methods of local districts to gather information and deliberate on school site decisions can further the disconnect with comprehensive land use planning. Next the chapter addresses constraints that school officials face when choosing sites and then closes with a brief discussion of how minimum acreage requirements have affected the process.

Local School Officials Do Not Have To Work with Local Government Officials

Local school officials have much freedom in deciding where to put a new school, and there is no requirement that they work with other local government officials to find the best site. While local school districts officially function as part of the state government in South Carolina, they are by and large independent authorities. They decide when a new school is needed and also decide where that school will be located. In addition, funding for most of the capital infrastructure comes from the local school districts and not the state. There are two primary sources for these funds. Under South Carolina's state constitution, every school district is allowed to maintain 8 percent debt service on all the assessed property in that county. In addition, bond money (the bulk of capital funding) is available when approved by local voters in a referendum.

School districts service these debts and fulfill other budget obligations with revenue from county property tax. Some Lowcountry school districts have the authority themselves to raise the tax rate; others, however, must rely either upon the County Board of Commissioners or the state legislative delegation from a locality to set the upper limit that they can draw. This variance does not alter the rule that local school districts have great autonomy in deciding the ultimate questions of where to put a school.

State Inflexibly Imposes Site Size Requirements, Barely Emphasizes Collaboration

The state department of education, which operates under the auspices of the State Board of Education, imposes very few requirements upon local school districts when approving new school sites. The state does not emphasize that local districts collaborate with other local government officials like a jurisdiction's planning agency.

Under S.C. Law, State Has Authority Over and Must Approve Site Selection. The State Board of Education has the authority "to adopt policies, rules, and regulations for the conduct and furtherance of the public school program in South Carolina."[17] In addition, state law requires that "all public school buildings be inspected and approved by the State Superintendent of Education or his agent, before first being occupied."[18] Pursuant to these laws, the South Carolina Department of Education provides local school districts with the South Carolina School Facilities Construction and Planning Guide: this manual sets forth requirements that must be followed in choosing sites for new schools. Most of the significant requirements are found in Division 2 of the guide, titled "Site Selection."

Within the South Carolina Department of Education, the Office of School Facilities (OSF) (until recently called the Office of District Facilities Management) has the most important role to play in site selection apart from the local district itself. OSF must approve all sites before a school district can purchase the property. Section 2.03 of the school planning guide states "all real property subject to acquisition by a district, whether unimproved land or land with existing improvements, shall first be approved by [the State Department of Education, Office of School Facilities]." In addition, "site inspections shall be made of all property prior to acquisition," §2.03 (2)(a).

Acreage Requirements and Ineffectual Waivers. The state of South Carolina requires local school districts to find sites with a certain amount of acreage for new schools depending on the type of school it will be and its expected enrollment (see footnote 8). When seeking OSF approval, school districts need not present alternate sites. Thus, if a school district strongly desires a specific site and that site meets the minimum size and safety requirements, it will be approved. OSF officials allege that local school districts can attain waivers for these acreage minimums; supposedly, having the minimum acreage requirements waived is easy if the school district explains its reason for acquiring a smaller site. The reality, however, is that waivers for smaller sites are approved only when no alternate sites of adequate size are available in the attendance zone. The minimum acreage requirements contribute and in part underpin the tendency among school officials to ignore land conservation practices.

Search for School Sites Vary from District to District. The site selection process itself is ad hoc and often varies from district to district and even site to site. The OSF manual presents many well thought-out steps for the site selection process. These include getting community input and working with the local planning agencies. There is also literature from school facility consultants available to local officials that relates to site selection. However, there are no strict requirements for the process of identifying and purchasing land for a new school imposed by the state; local school districts can set about the task as they see fit. Thus, across the Lowcountry, school site selection is a varied process. Local planning agencies are anxious to help school districts select new school sites but are inevitably left out of the process.

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[17] §59-5-60, S.C. Code of Laws, 1976

[18] §59-23-190, S.C. Code of Laws, 1976

By working independently of local planners, school officials struggle without their best potential partner to meet a stiff challenge. School officials consistently remark on the difficulty in finding land for new schools. That difficulty stems not only from the larger and larger tracts of land being sought and the focus of school officials on purchasing the cheapest land in the price-per-acre sense, but also grows out of the rapid development and wetland protection of the Lowcountry that genuinely limits available space. The difficulty of effective site selection deserves the input and creativity of educators and planners – the burden should not fall to just school officials.

Other State Authorities Must Approve Sites, But Play Minimal Role in Site Selection

Although they do not choose sites, other state officials have influence over the site selection process. The S.C. Department of Transportation (DOT) and the S.C. Department of Health and Environmental Control (DHEC) play limited roles. DOT determines whether the proposed site has good access to a major road, whether road improvements are needed, and whether the school buildings should be physically oriented in a certain way to facilitate school traffic flow on campus. DHEC must approve the water and sewer sources and determine whether a proposed school site will use wetlands, in which case the school system must abate the damage by providing other wetlands for protection. Also, a site must have a certain elevation to meet flood plain requirements. DOT and DHEC do not select sites; they mostly instruct a district on the changes that are necessary for approval of a proposed site. Glaring problems like proximity to a toxic dump or hazardous power lines will mobilize the state to bar a location from being selected.

U. S. Department of Justice: Site Selection Authority When District Fails To Integrate

The United States Department of Justice (DOJ) sometimes supersedes local authorities and determines where new schools will be located. DOJ authority in these matters comes from the consent decrees or court orders relating to racial integration that were entered around 1970 when Lowcountry school districts failed to racially integrate their schools. DOJ input in the site selection process is currently in effect in Colleton and Georgetown Counties because those districts failed to properly integrate some of their schools. In Georgetown County, for example, DOJ ordered the school district to place Carvers Bay High School at its location in order to integrate two student bodies that were previously imbalanced racially.

Private Discussion of Potential Sites by Local School Staff and Politicians

Sunshine Laws. Under the South Carolina Freedom of Information Act, the most important conversations relating to possible sites can be (and are) non-public. Section 30-4-70 of the South Carolina Code of Law (1998) states that: "a public body may hold a meeting closed to the public for…Discussion of negotiations incident to proposed contractual arrangements and proposed sale or purchase of property."

Without involvement of the press or the general public, the decision-making process to decide on a site is likely more efficient; however, what the process gains in efficiency, it loses in public feedback. Often the school board will rely on school professionals for information about potential sites and likewise will often give serious consideration to the recommendations offered by the school district's staff. With this input and any other information that they gather, politicians will hash out the pros and cons of possible sites entirely in closed executive sessions, and only when the board decides to take its final vote to purchase the land are the possible sites made public.

The result is that under South Carolina law there is almost no public check on which sites are chosen, and often highly important information relating to how a site might affect community cohesiveness or serve as a community center never gets aired. An excellent example of this occurred during the summer of 1999 in Charleston County where a site for a new high school was being sought. A staff error led to the identity of a potential site – the Marino Tract – being made public. Under the current law, there was no legal reason at that juncture for the public to be informed about that potential site. However, once the Marino land was disclosed as a likely site, there was an immediate public outcry. The mayor of Mount Pleasant led a cacophony of protesting voices that the Marino site was too far from the town center of Mount Pleasant and would undermine the urban growth boundary that Mount Pleasant and Charleston County planners had worked hard to agree upon. In the end, because of the public outcry, the politicians had more information with which to direct the continuation of the search for an appropriate site, although it was recently reported that the Marino Tract is unfortunately still under consideration.

***Professional Staff and Hired Agents Can Have Tremendous Influence*.** School systems assign staff to plan and manage facilities. The duties of these professionals vary from district to district depending mostly depending on its size (district sizes can differ both in the number of students and number of schools). Once the need for a new school is determined, staff will undertake a number of various steps to identify potential sites.

In smaller districts, especially where land value is not that expensive, professionals will not usually employ clandestine tactics to identify available land. They will talk with realtors and refer to tax maps; they will then look at topographic maps as well as visit possible sites themselves. Often in smaller districts, professionals work side by side with school board members to find available sites.

In larger districts, especially where land is more expensive, professionals often employ an agent – perhaps a real estate appraiser – to search for potential sites. The agent will not reveal that he works for the school district for fear of driving up the price of the property.[19] Whether small or large, districts will begin to overlay other criteria for a possible site once they have comprised a list of available sites.

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[19] A recent example in Chatham County, N.C. exhibits why use of an agent makes good sense. The schools approached a landowner directly, and his offer was twice the market price (the school district's politicians rejected the offers). Upon resuming to look for a site, Chatham County will use an agent. *The Chapel Hill Herald*, "Chatham rejects site for school," September 9, 1999.

School Board Members Have Varied Input. From the beginning of the site selection process, the school board may direct staff to identify sites using specific criteria, but often board members simply want to know what is available before they begin to whittle down options. Once professionals have identified potential sites and presented these to the school board in executive session, the board will likely either direct that the search continue (because the sites are not deemed satisfactory) or direct the professionals to begin negotiating a price for certain of the available sites.

School board members may take a much more active role in the process of hunting for an appropriate site. It is fairly common for them to know of a landowner that might have available land or to have contacts that can help identify available land quickly. This seems more common in smaller counties. It is common in all districts, however, for political influences to affect which sites the board members like the most. For example, elected officials might prefer a specific site because it will be more popular than another among voters, or because a friend has expressed a desire to sell his land, or perhaps because the board member wants to help a friend profit.

Presentations Do Not Fully Inform the Decision for the Best Site. Frequently, professional staff will make presentations to the school board about possible sites; these are held in executive session and are non-public. Thus, if cost-benefit analysis is used to compare sites, it takes place in executive session. Such analyses are by no means a necessary or even regular part of the site selection process. There are three aspects of these presentations that stand out and weaken their effectiveness.

First, under South Carolina law, there is no requirement that more than one site be considered by a new school district. Thus, an analysis of a site is often not made in comparison to any other sites. This leaves great leeway in how professionals can color the presentation.

Second, often school board members have already made up their minds about a possible site before presentations of its pros and cons have been made. This is in part due to the political forces that influence these decision-makers. Overriding reasons relating to voting constituencies, political supporters, or community stereotypes may impact the elected officials before they ever hear a presentation relating to a possible site. As one school professional explained, this means that the best planned presentations with elaborate charts and detailed tables and maps can be irrelevant to the school board.

Third, the implications of transportation expenses associated with each site carry little weight with local school board members. In South Carolina, basic student transportation costs are covered by the state. The local school district may bear some transportation costs to subsidize some transportation expenses when the state does not appropriate enough money for a specific district's needs (e.g., wages for bus drivers are subsidized in Charleston County but not in Colleton County). However, in general, a presentation by school staff that shows one site will save tremendously on transportation costs matters little to locally elected officials who will quickly value other characteristics more heavily than transportation burdens.

Scarcity and Expense Pose Real Constraints on the Site Selection Process

In the increasingly popular Lowcountry, school planners have a challenging task to find available sites that can work for new schools. A number of circumstances make potential sites scarce, and these include: (1) the abundance of wetlands, (2) the ever rising price per acre, (3) urban sprawl that chews up available land, (4) large tracts of military property, and (5) complex ownership patterns like heirs property. While these circumstances clearly show the difficulty of finding a site, the difficulty is also due in large part to the current conceptions of the proper size of an appropriate site and the insistence on enormous tracts of land for new schools. The problem is intensified by the tight capital budgets of local school districts that make free or very inexpensive land from real estate developers highly coveted. Choosing such tracts, however, often has broader cost repercussions for the future that are overlooked in the short run.

Minimum Acreage Requirements Has Entrenched "Big Site" Concept

Minimum acreage standards promoted most popularly by the Arizona based Council of Educational Facility Planners Institute has helped entrench the immovable image that a good school must be a on a large site. CEFPI itself offers some very helpful and creative information pertaining to choosing the most successful sites. The organization also encourages that with regards to the amount of acreage, school districts should be flexible when necessary. However, that is not the message that most school officials remember from CEFPI material. In the Lowcountry at least, school officials refer to CEFPI when asked why the minimum acreage standards are so steadfastly followed. One historic preservationist expressed the organization's influence this way: "no one questions [the minimum acreage standards] set by CEFPI...[CEFPI] has helped set the picture of what a good school looks like [and it] is difficult to change."[20]

Needs of Society in General May Have Influenced Acreage Minimums: Specific acreage recommendations have perhaps flowed from the needs that our society more generally has identified in different eras for our schools. For example, one school expert, remarking that Cold War fears were high in the 1950s, observed that in that climate, schools received more resources than before. In the 1950s, schools increased their emphasis on science, mathematics, and athletics in the wake of such historic episodes as Russia's launching of Sputnik. It is consistent with that observation that the 1950s is the last decade that South Carolina invested in school infrastructure statewide; furthermore, by the end of that decade half of the U.S. states had adopted the minimum acreage requirements suggested by CEFPI.

Site Selection Should Focus on Needs of Today's Communities. While the Cold War climate may have impacted thinking about how school sites should look, shaking that image has been difficult. Regardless of how the "bigger is better" mentality was spawned, American society has different needs today and our schools should be located in a way that serves these current needs. Of note, these needs include conserving land, keeping communities intact, using more efficient and healthy means of transportation whenever possible, and promoting the health of our children. The next section will discuss how reaching these needs, in the form of land use conservation principles, is compatible with the aims of successful school site selection.

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[20] Jack Murrah, education specialist and executive director of Lyndhurst Foundation.

CHAPTER 4

CONSERVATIONIST LAND USE AND SCHOOL SITE SELECTION

Incorporating tenets of land conservation is compatible with effective site selection. The criteria for a successful school site provided by the South Carolina Department of Education show that choosing a successful school site and efficiently using land are two aims that are in great harmony.

In volume II of the Facilities Planning and Construction Guide, the South Carolina Department of Education sets forth a list of 31 questions (see Appendix 5) that comprise criteria that school planners should try to meet when looking for a new site. The guidebook instructs that school officials "should investigate both present and possible characteristics of the site and the surrounding property" to meet the criteria that are provided in those 31 questions. At least 12 of the questions promote conservationist principles and would lead to conservationist-friendly sites (see the questions in bold in Appendix 5).

There are many ways to articulate goals of managed growth and land conservation. Essentially, the aim is for a community to expand its urban development in a sensible way that is proportional to its residential growth in order to minimize – and eliminate where possible – traffic congestion, new infrastructure costs, and environmental adversities. A fundamental way for a community to achieve land conservation is to construct at in-fill locations amongst existing development, rather than beyond it. (See Appendix 6 for the South Carolina Coastal Conservation League's articulation of these goals.)

Conservationist Goals Are Compatible with South Carolina Site Selection Criteria

The goals of conservationist development are not incompatible with South Carolina's site selection criteria. Focusing on these goals would in turn help satisfy many of the South Carolina criteria for successful site selection. A brief comparison of several of the S.C. criteria with conservationist goals shows not only compatibility between the two but makes clear that satisfying one promotes the other.

Safety and Convenience Attained at In-fill Locations. The S.C. criteria promote that a site's location be safe (free of traffic and natural hazards) and "convenient for the majority of students": meeting these two criteria will often lead to in-fill sites. Safety of a school site can be promoted when sites are planned as integral parts of a community. In this way, hazards can be reduced when new schools are tied-in to existing infrastructure and placed where glaring hazards have already been avoided for development: safe roads and sidewalks are already in place and no toxic dumps, dangerous power lines, or flood planes are nearby.

Achieving convenience for all students means working to locate schools as close to the center of an attendance zone as possible, not at an extreme end. There are occasions, however, where an attendance zone includes low-density development that is far-away; in such cases, sites closer to more densely populated parts of the attendance zone and convenient to the greatest number of students may be better than locations that are literally central to the attendance zone. Generally, safe and convenient sites will be at in-fill locations.

Use of Existing Utilities and Energy Conservation Attained at In-fill Locations. The S.C. school site criteria ask whether a site has "safe drinking water available," sewer available, and utilities like electricity, gas, and telephone. When located away from this infrastructure, new school sites require expensive and sometimes extraordinary arrangements to satisfy these needs at a new school, especially for water and sewer. By locating schools at in-fill sites, these services would already be available and thus easily provided to the new school sites. Likewise, the criteria ask whether the proposed school site is suited for energy conservation. At in-fill sites, using existing infrastructure conserves energy and eliminates the need for special efforts to bring utilities to a location; also, energy consumption for transportation is reduced when sites are closely and conveniently located.

The criteria also ask the extent of off-site improvements that a site will require. These will be less among existing development where buildable land has already been identified; often in the Lowcountry, clay-gumbo or pluff mud can create building nightmares. In addition, many road improvements already exist at in-fill locations. Overall, the need for site improvements is minimized at in-fill locations and this helps reduce energy consumption.

Proximity to Community Services Attained at In-fill Locations. The site criteria ask whether the proposed site is near existing educational facilities or community services like libraries, parks, and museums. Also, the criteria aim for schools to be close to public safety agencies like police, fire department, rescue, and medical care. Locating schools close to these community facilities and safety outlets will naturally translate into more centralized school sites among and within communities rather than on their edges.

School sites are also supposed to provide a community with open space where it needs it. Generally, a community will want open space for sports activities and community functions at an accessible location and not at its edges. Again, in-fill sites will likely be more central and more easily accessed by the majority of the community.

Racial Integration More Readily Achieved at In-fill Locations. Finally, conservationist aims that would centralize schools would arguably help mitigate "potential problem[s] concerning the district's court ordered desegregation plan or Office of Civil Rights approved desegregation plan." For example, new schools that are placed on a community's edge often serve predominantly white suburban communities; thus, built in such far off locations, they can exacerbate segregated school conditions. By working to locate schools at in-fill sites rather than at leapfrog locations, it is easier to place new schools at midpoints that facilitate racial balance among student populations. The habit of placing schools further from town centers attenuates the ability for successful integration, and school location can unwittingly exacerbate social segregation in our communities.

Essentially all criteria for site selection provided by the South Carolina Department of Education are compatible with conservationist aims. While the location of some new schools is defensible, synchronizing modern approaches to good education with sound land use planning will bring better school sites in the future.

Conservationist Goals Compatible with Other Site Selection Goals

Outside of the S. C. Department of Education's material, there are many sources with suggestions for successful site selection. For example, CEFPI has helpful material that suggests creative and multiple use of structures and facilities. This report does not attempt to set forth an exhaustive survey of which goals of design or use are best for new schools. It is helpful, however, to review goals other than those set forth by South Carolina's Department of Education to demonstrate that conservationist goals are compatible with them as well.

Multiple-Use Facilities Compatible with Conservationist Aims. One CEFPI article promotes compact building design, three-dimensional sites, and multi-use buildings. It explains that "no longer can a community afford public land that is used only part of the day or part of the year. Whether the land is a school site or a recreational facility, it must be pressed into multiple use." It encourages that single story buildings give way to multi-story buildings and that "hard surfaces be well lighted with button operated lighting so…court games can be enjoyed at night." Similarly athletic fields should be lighted for evening use for soccer, Little League, softball and other sports. The multiple use of public facilities is a sound conservationist principle.

Creative Parking Strategies Promoted By Site Selection Material Compatible With Conservation Principles. The CEFPI article discussed above is especially helpful with regards to parking. It stresses that parking for every need should not be constructed at a site. Instead, new schools sites should be built where existing parking structures and parking space is available nearby, "especially if the need is for evening or off-hour parking, such as stadia, adult education, or university extension purposes."

Schools Serving as Community Centers Promote Conservationist Principles. Increasingly, literature about optimal site selection emphasizes that schools should serve as community centers. Steven Bingler, a New Orleans architect who emphasizes this concept, recently designed a school in Iuka, Mississippi that doubles as a community center. The school's gymnasium doubles as a community fitness center, and the cafeteria serves as a town meeting hall. In addition, Bingler encourages the use of existing structures to be used as schools; he explains that "you can't have a building that holds education – the building is education." Emphasizing schools as community centers promotes conservationist principles: it leads to schools at in-fill sites and maximizes the use of public facilities.

South Carolina's Chosen Acreage Requirements Are Arbitrary and Inconsistent with Conservationist Principles

Minimum acreage requirements play a significant role in the way sites are selected in South Carolina Lowcountry districts in recent decades. It is troubling, however, that neither South Carolina school officials nor CEFPI representatives can identify the goals that underpin the specific acreage requirements that are used in South Carolina. The absence of an explanation for these minimum acreage requirements makes them appear somewhat arbitrary. At least two additional reasons also make the minimum standards seem arbitrary. First, there are no specific educational goals that flow from these requirements. The argument that considerable amounts of land are necessary is undermined by at least two facts: older schools function with far fewer acres than the state requires; and new school plans by architects committed to centralizing schools to their communities do not require enormous sites.

The second reason the minimum acreage requirements seem arbitrary is that there are different acreage minimums used around the country. For example, Virginia requires that elementary schools begin with four acres and that one acre be added for every 100 students. Thus, a 500 student elementary school in Virginia needs nine acres (five acres – one for each 100 students – is added to the initial base of four acres for a total of nine acres). The same school in South Carolina needs 15 acres (five acres – one for each 100 students – is added to the initial base of ten acres for a total of 15 acres) – a site 67 percent larger than that required in Virginia. South Carolina state officials should be able to justify this lofty requirement; in the absence of a good explanation, the acreage requirements arguably appear irrational. Similarly, Virginia middle and high schools only need a base of 10 acres while South Carolina requires a base of 20 acres for middle schools and 30 acres for high schools.

In addition, South Carolina's requirements dwarf Florida's; that state uses a slightly different formula, (see Appendix 7, discussing efforts to change school site selection in other states), but an elementary school for 600 students in Florida requires only 6 acres while the same school in South Carolina requires 16 acres. A high school for 2,000 students in Florida requires 31 acres while the same school in South Carolina calls for 50 acres.

Many school districts around the country no longer require minimum acreage amounts (again, see Appendix 7). CEFPI itself is considering changing its recommended requirements. The organization now seeks input from education officials in states that have already eliminated minimum requirements; some of these states believe that minimum requirements were forcing schools to be located outside of cities and away from where people lived. That, of course, is the primary finding of this report as the situation pertains to the South Carolina Lowcountry.

CHAPTER 5

RECOMMENDATIONS

The following recommendations are made with the hope of giving communities in general and children in particular the benefits of better located schools. These measures will make the school site selection process more effective by helping school officials meet the needs of communities in the Lowcountry and across South Carolina to ***promote the health of their children*, *conserve land***, and ***keep communities intact***.

I. The first group of recommendations applies to the State Department of Education and addresses that department's need to provide ***leadership, education, and technical assistance*** to local school officials aiming to meet the needs of today's communities.

ONE: *South Carolina should weaken the acreage requirements by making them only guidelines as other states have done*.

The South Carolina Department of Education imposes minimum acreage requirements for all new schools. There is no justification for the specific acreage amounts that have been chosen and imposed since 1983; since then, school sites are 41 percent larger than schools built before 1983. But local school districts not only adhere to these size requirements they surpass them. School sites built since 1983 are sixty percent larger than the state requires. By regularly choosing enormous sites, local school districts appear to value abundance of land over other characteristics of a good site. By weakening the acreage requirements, the state will send a message to local school districts that enormity is not mandatory for a successful school site.

TWO: *South Carolina should provide technical assistance to local school officials to maximize the use of existing structures. To this end, the state should compile a list of can-do architects who are skilled at renovating and modernizing the technology and amenities of old buildings. In addition, the state should assist local school officials in working with other local government authorities to use existing facilities like parks, stadiums, parking lots, and playing fields.*

As school officials feel constrained to find available land for new school facilities in the Lowcountry, they should look more often to reusing existing structures. Refurbishing older facilities can be cost effective when working with architects accustomed to such projects. The result is not only an efficient use of property but school facilities that are conveniently located amongst existing development, and this also helps schools become (or, become again) community centers.

In addition, locating schools in a way that promotes use of existing facilities like parks, stadiums, parking lots, and playing fields relieves local school officials from the pressure of finding extra land to construct facilities that would be duplicated for the community. When schools avoid extra construction and land consumption by using these existing facilities, it is an efficient use of public resources as energy and money are conserved, and it helps preserve the environment.

THREE: *South Carolina should educate local school officials on the benefits of locating schools at in-fill and central locations in order to help keep communities intact and reduce sprawl.*

Many who impact the school site selection process are simply not aware of the broader impacts and adverse effects that school location can have on a community. Officials select sites that are available and cheap in the short run, but these decisions are made without any knowledge of declining walkability, increasing land consumption, mounting transportation costs, and unwanted urban sprawl that are endemic to more recently selected sites. Officials seek large sites often on the edge of town because they believe that an abundance of land is necessary for a *good* school. Once informed by the state of the broader implications of site selection and ways to use land use principles to avoid its potential drawbacks, however, these officials would willingly make different decisions.

II. The second group of recommendations applies to local officials and addresses the need for them to ***coordinate their efforts to locate and design*** the best new school sites.

ONE: *Meetings held between real estate developers and school facility planners should include a planner from the local jurisdiction to insure compliance with the local comprehensive plan and help arrange for adjoining public facilities wherever possible.*

Too often, real estate developers, whose aim is to sell houses, determine where new schools will be located. A developer's willingness to contribute land to a school district can be a great help. It is shortsighted, however, for a school district to accept land because it is free or cheap when the long-term cost will be the loss of a better site. The benefits of a better site – including lower transportation and construction costs, higher walkability, capacity to serve as a community center, and a better fit with a community's comprehensive development plan – far outweigh the minimal financial benefits of front end savings that free or cheap land bring.

TWO: *The local jurisdiction where new schools are to be built should have the ability to review and approve proposed school sites. In anticipation of this review, local school officials should include local planners in identifying potential school sites.*

There is a pervasive disconnect between school site selection and land use planning. Local school districts are autonomous, and in the absence of a directive from the state they need not work with local officials in choosing a school site. This means that local efforts to curtail unwanted sprawl or to require that new development meet a jurisdiction's comprehensive plan can be undermined by the location of a new school. Such lack of local input is untenable, and thus local jurisdictions should have more say so over where new schools will be located.

THREE: *Local school officials should consult with the local jurisdiction's planners on the design of the school site and the connection to the external road network to maximize opportunities for walking and biking.*

Schools are not built with the aim of maximizing opportunities for children to walk and bike. One result is that children lose the opportunity for daily physical activity. According to the Center for Disease Control, declining physical activity contributes to obesity among school age children which was why the CDC recently participated in the "National Walk a Child to School Day." Thus, opportunities to walk and bike to school should be encouraged for the health of children. In addition, by maximizing opportunities for children to walk to school, children would learn their community and feel a sense of belonging.

FOUR: *Local school officials should work with other local authorities to eliminate hazards that prevent children who live within 1.5 miles of their school from walking to school. Both local school and government authorities should report any such hazards once identified and then work to mitigate these hazards to maximize the opportunity for children to walk to school.*

Declining walkability is not always a function of distance; increasingly, schools built in recent years have hazards that impede pedestrian or bike access even for children living fairly close to their school. South Carolina will bus children to school who live beyond 1.5 miles from their school; buses are also sometimes provided to children living *within* a 1.5 mile radius of their school if there are hazards that prevent safe pedestrian access. Avoidable transportation costs mount as buses transport children short distances. Through collaboration between school officials and local planners to eliminate hazards within a 1.5 mile radius of a school, these transportation costs could be avoided and opportunities for children to walk and bike to school maximized.

III. The third group of recommendations applies to the South Carolina Department of Education, the South Carolina Department of Transportation, and local school districts and addresses the need of these entities to ***coordinate better transportation options*** to minimize costs and environmental impact.

ONE: *Local school officials should work with city and regional transportation authorities to incorporate city buses as an option for transporting students to and from school.*

South Carolina school districts rely almost exclusively on school buses and personal cars to transport children to school. Sites are selected in part to accommodate these modes of transportation, and the result is that much land is required for bus and car parking, on site pick-ups and drop-offs, and vehicle turnarounds. More flexibility in choosing creative and effective school sites could result from mitigating the reliance on these modes of transportation. Looking to city and regional transportation sources that have great resources that are not always maximized is an obvious place to begin improving school transportation options.

TWO: *SCDOT should channel more of South Carolina's federal highway dollars to make safer bike and pedestrian routes to schools. These funds should be used to make more and safer crosswalks, traffic calming programs, constructing sidewalks where none exist, and bike paths all with a particular focus of helping children who live within 2 miles of their school get there by their own means.*

The resources necessary for many bike and pedestrian route improvements already exist. Using these existing funding sources, the number and quality of safe routes for children to get to school can be increased quickly.

THREE: *Local officials should prepare a transportation cost-benefit analysis of a proposed site before they make a decision on a new school location.*

Because the state of South Carolina pays for primary transportation costs of getting children to school, it is easy for local school board members to ignore these cost implications of a proposed site. Analysis of transportation costs are easy for school professionals to overlook as well, in part because alternate sites need not be compared. While in time more fundamental changes may be warranted, at a minimum, local officials should make a transportation analysis a part of their decision making process when choosing a new school site, and it should at least include the financial costs, congestion costs, and environmental costs of a proposed site.

FOUR: *Local school districts should replace the excessive dependence on huge parking lots at new schools with policies emphasizing carpooling and use of existing parking.*

With upwards of 1500 spaces, new high school parking lots in Charleston County will alone consume as much as ten acres; this exemplifies the troubling interface between transportation patterns and a lack of land use conservation principles in the new school site selection process. Finding school sites with ample land for copious parking spaces – that in turn encourages more people to drive themselves to school – is unfortunately the sole solution applied many times to transportation needs. This makes poor sense as it leads to the consumption of more land, adds to traffic congestion, and fails to save taxpayers by making efficient use of existing structures.

Appendix 1

Lowcountry Schools

School	Walk/Bike	Enroll	Year Built	Acres	State Req. Acres	School Type	School Dist
1 Beaufort Elementary	75	527	1986	10	15.27	E	Beaufort
2 Broad River Elementary	0	510	1957	24.3	15.1	E	Beaufort
3 Coosa Elementary	4	480	1998	19.78	14.8	E	Beaufort
4 Daufuskie Elementary	0	16	1995	13.5	10.16	E	Beaufort
5 Davis Elementary	3	427	1991	20.6	14.27	E	Beaufort
6 Hilton Head Elementary	15	1857	1974	*18.48*	*15.78*	E	Beaufort
7 Lady's Island Elementary	4	*290*	1963	*20*	*12.9*	E	Beaufort
8 Mossy Oaks Elementary	226	484	1962	9.38	14.84	E	Beaufort
9 Port Royal Elementary	67	188	1911	40	11.88	E	Beaufort
10 Riley Elementary	154	995	1991	21.19	19.95	E	Beaufort
11 St. Helena Elementary	0	793	1992	39	17.93	E	Beaufort
12 Shanklin Elementary	0	730	1994	*20*	*17.3*	E	Beaufort
13 Shell Point Elementary	48	668	1968	20	16.68	E	Beaufort
14 Lady's Island Middle	10	1310	1984	41.3	33	M	Beaufort
15 Hilton Head Middle	2	1289	1991	*36.96*	*27.96*	M	Beaufort
16 Robert Smalls Middle	47	1252	1984	47.85	32.52	M	Beaufort
17 Battery Creek High Schoc	20	1547	1992	60	45	HS	Beaufort
18 Beaufort High School	191	1478	1959	27	44.78	HS	Beaufort
19 Hilton Head High School	35	1436	1983	*44*	*37.4*	HS	Beaufort
20 Berkeley High School	77	1280	1955	40	41.5	HS	Berkeley
21 Berkeley Elementary	0	726	1997	40.054	18	E	Berkeley
22 Berkeley Intermediate	0	765	1994	22	17.8	E	Berkeley
23 Berkeley Middle	62	1224	1955	14	42.38	M	Berkeley
24 Bonner Elementary	0	676	1980	8	14.2	E	Berkeley
25 Macedonia Middle	0	562	1988	170.81	27.5	M	Berkeley
26 Timberland High School	0	1037	1996	127.98	41	HS	Berkeley
27 St. Stephen Elementary	81	405	1954	19	13	E	Berkeley
28 St. Stephen Middle	50	369	1958	10	23.96	M	Berkeley
29 JK Gourdin Elementary	0	266	1925	11	12.4	E	Berkeley
30 Cross High School	0	529	1954	32	38.3	HS	Berkeley
31 Cross Elementary	0	630	1957	10	17.2	E	Berkeley
32 Boulder Bluff Elementary	500	625	1964	22	14	E	Berkeley
33 Westview Elementary	236	714	1974	18.12	15.4	E	Berkeley
34 Westview Middle	373	1129	1976	36.24	30.8	M	Berkeley
35 College Park Middle	300	1226	1978	12	30	M	Berkeley
36 College Park Elementary	96	762	1974	12	26.3	E	Berkeley
37 Stratford High School	36	2362	1983	55	51	HS	Berkeley
38 Devon Forest Elementary	50	891	1991	20	17.4	E	Berkeley
39 Sangaree Elementary	295	751	1975	16.6	14.88	E	Berkeley
40 Sangaree Intermediate	c/b	606	1987	19.12	13.65	E	Berkeley
41 Goose Creek High Schoo	485	1616	1961	40	39	HS	Berkeley
42 Sedgefield Intermediate	100	692	1991	8.36	15.3	E	Berkeley
43 Sedgefield Middle	175	963	1974	13.64	24.65	M	Berkeley

Appendix 1

School	Walk/Bike	Enroll	Year Built	Acres	State Req. Acres	School Type	School Dist
44 Howe Hall Elementary	56	658	1954	10	15	E	Berkeley
45 Whitesville Elementary	5	480	1956	21.48	14.8	E	Berkeley
46 Men Riv Elementary	310	343	1966	20.04	14.4	E	Berkeley
47 Marrington Elementary	350	420	1979	6.7	12.24	E	Berkeley
48 Marrington Middle	306	383	1977	13.3	23.12	M	Berkeley
49 Hanahan Elementary	30	885	1998	28.76	19	E	Berkeley
50 Hanahan Middle	175	445	1961	10	24	M	Berkeley
51 Hanahan High School	160	709	1958	22.17	38	HS	Berkeley
52 Cainhoy Elementary	1	286	1979	32.1	12.4	E	Berkeley
53 Cainhoy Middle	11	219	1956	32.01	23.4	M	Berkeley
54 St. Stephen High School			1953	20		HS	Berkeley
55 Fishburne Elementary		340	1949	5.5	13.4	E	Berkeley
56 Ashley River	4	495	1952	15.43	23.82	E	Charleston
57 Belle Hall	45	600	1990	9	16	E	Charleston
58 Ronald E. McNair	323	359	1941	7.5	17.5	E	Charleston
59 Harbor View	25	839	1960	6.07	21.91	E	Charleston
60 Chicora	340	484	1934	3.13	14.75	E	Charleston
61 James Simons	183	608	1919	3	16.17	E	Charleston
62 Corcoran	200	518	1968	20.5	16.76	E	Charleston
63 W. J. Fraser	180	339	1956	3	13.39	E	Charleston
64 J. B. Edwards (E)	25	764	1967	18	19.67	E	Charleston
65 Burns	250	727	1948	11.2	18.96	E	Charleston
66 Goodwin	350	791	1967	15	17.72	E	Charleston
67 Hunley Park	53	523	1958	10	16.46	E	Charleston
68 Jane Edwards	0	154	1953	10.3	12.8	E	Charleston
69 Jennie Moore	80	800	1952	20.55	18	E	Charleston
70 Ladson	31	601	1924	15.12	15.84	E	Charleston
71 Lambs	400	570	1962	20	19.42	E	Charleston
72 Whitesides	100	656	1956	10.9	17.78	E	Charleston
73 Mary Ford	30	500	1943	20	19.49	E	Charleston
74 McClellanville (M)	6	177	1929	10	12.24	E	Charleston
75 Memminger	377	418	1938	3	13.66	E	Charleston
76 Midland Park	130	559	1936	6.85	15.76	E	Charleston
77 E.B. Ellington	9	402	1956	10	14.69	E	Charleston
78 Minnie Hughes	0	279	1958	10	14.62	E	Charleston
79 Mitchell	616	616	1920	1	15.31	E	Charleston
80 Blaney (E)	10	324	1964	12.74	22.7	E	Charleston
81 Mt. Pleasant Acad	264	406	1962	9.1	13.72	E	Charleston
82 Mt. Zion	5	299	1955	10	14.38	E	Charleston
83 Murray LaSaine	23	454	1956	8	13.07	E	Charleston
84 North Charleston	65	660	1922	6.29	16	E	Charleston
85 Oakland	12	675	1957	28.8	16.96	E	Charleston
86 Orange Grove	62	828	1962	10	19.27	E	Charleston
87 Matilda F. Dunston	305	468	1960	7.5	14.94	E	Charleston
88 Malcom C. Hursey	280	461	1959	7	13.79	E	Charleston
89 Pepperhill	105	620	1975	30	16.2	E	Charleston
90 Frierson	0	194	1953	10.125	14.2	E	Charleston
91 St. Andrews	10	497	1950	12	17.16	E	Charleston

Appendix 1

School	Walk/Bike	Enroll	Year Built	Acres	State Req. Acres	School Type	School Dist
92 Angel Oak	12	469	1951	22	28.45	E	Charleston
93 St. James - Santee	0	433	1983	20	14.33	E	Charleston
94 Sanders-Clyde	189	378	1953	3	16.58	E	Charleston
95 Springfield	103	1029	1966	10.25	16.03	E	Charleston
96 Stiles Point	73	727	1963	20	19.73	E	Charleston
97 Stono Park	3	386	1951	5	15.21	E	Charleston
98 Sullivan's Island	c/b	475	1955	18.2	14.06	E	Charleston
99 Courtenay (M)	321	357	1953	5	17.22	M	Charleston
100 Drayton Hall	10	986	1981	28.32	29.86	M	Charleston
101 Morningside (M)	18	694	1955	11.1	14.83	M	Charleston
102 Haut Gap	26	361	1950	28	22.49	M	Charleston
103 Moultrie (M)	233	818	1943	15	28.18	M	Charleston
104 Fort Johnson	51	502	1953	15	38.53	M	Charleston
105 James Island	100	555	1955	8	24.66	M	Charleston
106 R.D. Schroder	3	438	1958	19.12	18.43	M	Charleston
107 Brentwood (M)	200	940	1956	17	18.15	M	Charleston
108 Alice Birney	50	980	1961	17.36	20.9	M	Charleston
109 Rivers (M)	490	576	1930	3	35.37	M	Charleston
110 Laing (M)	18	875	1953	9.9	34.42	M	Charleston
111 C.E. Williams	30	541	1968	30	25	M	Charleston
112 Baptist Hill	45	445	1948	9.27	38.35	HS	Charleston
113 Burke	760	844	1910	15	45.77	HS	Charleston
114 James Island	?	1188	1968	51.2	39.19	HS	Charleston
115 Lincoln	30	192	1940	15.6	36.2	HS	Charleston
116 Middleton	35	1077	1959	20	42.95	HS	Charleston
117 North Charleston	200	1299	1926	10	41.73	HS	Charleston
118 St. John's	0	344	1940	20.5	33.44	HS	Charleston
119 St. Andrews	35	858	1930	16	42.04	HS	Charleston
120 Stall	74	926	1961	26.04	45.97	HS	Charleston
121 Wando	200	1803	1972	43.7	48	HS	Charleston
122 Garret (Acad Tech)	c/b	661	1957	17.66	44.3	HS	Charleston
123 Norman C. Toole	c/b	380	1943	10		M	Charleston
124 Cottageville Elementary	4	389	1938	9	13.89	E	Colleton
125 Hampton Street Elementa	25	287	1940	2.5	12.87	E	Colleton
126 Jonesville Elementary	3	144	1953	9.5	11.44	E	Colleton
127 Colleton Middle School	0	515	1953	25	25.15	M	Colleton
128 Bells Elementary	0	340	1954	39	13.4	E	Colleton
129 Forest Hills Elementary	6	636	1954	14	16.36	E	Colleton
130 Colleton Middle School	0	504	1954	15	25.04	M	Colleton
131 Ruffin High School	c/b	279	1954	27.6	32.79	HS	Colleton
132 Smoaks Middle	0	244	1955	16.9	22.44	M	Colleton
133 Black Street Elementary	6	565	1957	12	15.65	E	Colleton
134 Ivenia Brown Elementary	2	182	1957	7	11.82	E	Colleton
135 Forest Circle Middle	10	415	1959	36	24.15	M	Colleton
136 Walterboro High School	0	1599	1983	51	45.99	HS	Colleton
137 Northside Elementary	0	691	1996	25	16.91	E	Colleton
138 Beech Hill Elementary	337	1123	1992	57.484	20	E	Colleton
139 Summerville Elementary	44	867	1954	6.78	15.9	E	Dorchester 2

Appendix 1

School	Walk/Bike	Enroll	Year Built	Acres	State Req. Acres	School Type	School Dist
140 Flowertown Elementary	9	873	1979	27.63	15.9	E	Dorchester 2
141 Newington Elementary	45	959	1976	27.63	16.65	E	Dorchester 2
142 Knightsville Elementary	20	913	1938	8.2	19.13	E	Dorchester 2
143 Spann Elementary	2	962	1958	25.25	19.6	E	Dorchester 2
144 Oakbrook Elementary	0	957	1987	25.03	19.57	E	Dorchester 2
145 Oakbrook Middle	92	1013	1987	50.06	30.13	M	Dorchester 2
146 Windsor Hill Elementary	125	962	1991	30.715	19.6	E	Dorchester 2
147 Gregg Middle	11	1140	1976	36.862	21.1	M	Dorchester 2
148 Alston Middle	460	766	1953	18.3	27.6	M	Dorchester 2
149 Dubose Middle	15	887	1985	122.44	28	M	Dorchester 2
150 Summerville High School	35	2865	1969	45	58.6	HS	Dorchester 2
151 Fort Dorchester High Sch	10	1841	1992	73.898	48	HS	Dorchester 2
152 Rollings School of Arts	c/b	539	1924	6.78	21.25	M	Dorchester 2
153 Givhans Community School			1945	15?		HS	Dorchester 2
154 Andrews Elementary	20	1060	1983	35	20.6	E	Georgetown
155 Andrews High School	75	700	1956	19.2	37	HS	Georgetown
156 Beck Middle	396	880	1954	17	28.8	M	Georgetown
157 Brown's Ferry Elementary	0	327	1956	10	13	E	Georgetown
158 Choppee High School	0	528	1956	35	35.2	HS	Georgetown
159 Deep Creek Elementary	0	378	1956	10	13.78	E	Georgetown
160 Georgetown High School	163	1046	1984	41.45	40.46	HS	Georgetown
161 Kensington Elementary	107	591	1957	9.85	15.9	E	Georgetown
162 Maryville Elementary	130	622	1951	25.7	16.22	E	Georgetown
163 McDonald Elementary	15	622	1954	15	16.22	E	Georgetown
164 Plantersville Elementary	0	187	1955	10	12	E	Georgetown
165 Pleasant Hill Middle	0	326	1937	11.6	23	M	Georgetown
166 Pleasant Hill High School	0	307	1985	60	33	HS	Georgetown
167 Rosemary Middle	70	591	1955	18.22	26	M	Georgetown
168 Sampit Elementary	0	291	1956	7.4	13	E	Georgetown
169 Waccamaw Elementary	80	944	1983	35.3	19.44	E	Georgetown
170 Waccamaw High School	0	794	1990	70	37.9	HS	Georgetown
171 Aynor High School	30	806	1927	41.75	48.036	HS	Horry
172 Carolina Forest High Sch	0	907	1997	60	34.8	HS	Horry
173 Conway High School	5	1619	1976	68.34	42.79	HS	Horry
174 Green Sea Floyds High S	3	625	1988	93.82	48.18	HS	Horry
175 Loris High School	0	819	1988	82.49	38.4	HS	Horry
176 Myrtle Beach High Schoo	40	1049	1988	40	39.52	HS	Horry
177 N. Myrtle Beach High Sch	12	975	1976	53.36	37.5	HS	Horry
178 Socastee High School	53	1716	1982	41.48	42.92	HS	Horry
179 Carolina Forest Middle	15	895	1997	40	23.17	M	Horry
180 Conway Middle	135	545	1964	8.88	28.54	M	Horry
181 Forestbrook Middle	14	715	1997	40	28.51	M	Horry
182 Loris Middle	95	640	1955	21.12	26.29	M	Horry
183 Myrtle Beach Middle	240	770	1997	18	27.7	M	Horry
184 N. Myrtle Beach Middle	75	803	1997	30.47	28.51	M	Horry
185 St. James Middle	c/b	814	1988	36	27.13	M	Horry
186 Whittemore Park Middle	0	655	1948	4.7	28.47	M	Horry
187 Aynor Elementary	3	704	1997	20	16.67	E	Horry

Appendix 1

School	Walk/Bike	Enroll	Year Built	Acres	State Req. Acres	School Type	School Dist
188 Carolina Forest Elementa	100	850	1996	25	16.67	E	Horry
189 Conway Elementary	40	348	1952	14.74	14.38	E	Horry
190 Conway Primary	c/b	420	1964	24	14.5	E	Horry
191 Daisy Elementary	0	686	1956	17.09	15.75	E	Horry
192 Forestbrook Elementary	40	598	1987	25	17.95	E	Horry
193 Green Sea Floyds Eleme	0	678	1992	12.01	17.51	E	Horry
194 Homewood Elementary	0	630	1956	22.65	15.38	E	Horry
195 Kingston Elementary	1	296	1954	8	11.83	E	Horry
196 Lakewood Elementary	60	530	1959	18.78	17.37	E	Horry
197 Loris Elementary	0	687	1997	17	16.67	E	Horry
198 Midland Elementary	1	259	1956	9	12.04	E	Horry
199 Myrtle Beach Elementary	28	531	1956	10	18.38	E	Horry
200 Myrtle Beach Intermediat	60	566	1964	10	19.22	E	Horry
201 Myrtle Beach Primary	0	570	1978	25	18.1	E	Horry
202 N. Myrtle Beach Element	9	741	1988	23.05	18.02	E	Horry
203 N. Myrtle Beach Primary	0	805	1956	10.8	17.09	E	Horry
204 Pee Dee Elementary	3	376	1956	8.5	13.26	E	Horry
205 Seaside Elementary	0	650	1996	1	16.67	E	Horry
206 Socastee Elementary	0	712	1972	20.69	16.67	E	Horry
207 South Conway Elementar	c/b	707	1957	10	17.96	E	Horry
208 St. James Elementary	0	526	1956	27.07	16.8	E	Horry
209 Waccamaw Elementary	10	662	1984	24.28	17.89	E	Horry

Dorchester 4 and Jasper, together having a total of eight schools, did not provide year of construction and size of sites.

Appendix 2

Hazard Route Data

School	Hazzard	Enroll	Yr. Blt	Acres	State Req. Acres	School Type	School Dist
Port Royal Elementary	66	188	1911	40	11.88	E	Bft
Ladson	42	601	1924	15.12	15.84	E	CH
Midland Park	57	559	1936	6.85	15.76	E	CH
Mary Ford	76	500	1943	20	19.49	E	CH
Moultrie (M)	79	818	1943	15	28.18	M	CH
Burns	67	727	1948	11.2	18.96	E	CH
Baptist Hill	85	445	1948	9.27	38.35	HS	CH
	472	***3838***					
	12%						

School	Hazzard	Enroll	Yr. Blt	Acres	State Req. Acres	School Type	School Dist
Jennie Moore	110	800	1952	20.55	18	E	CH
Fort Johnson	13	502	1953	15	38.53	M	CH
Jane Edwards	30	154	1953	10.3	12.8	E	CH
Berkeley High School	1	1280	1955	40	41.5	HS	Bk
Berkeley Middle	26	1224	1955	14	42.38	M	Bk
Whitesville Elementary	4	480	1956	21.48	14.8	E	Bk
Murray LaSaine	60	454	1956	8	13.07	E	CH
Brentwood (M)	90	940	1956	17	18.15	M	CH
Whitesides	91	656	1956	10.9	17.78	E	CH
Cross Elementary	5	630	1957	10	17.2	E	Bk
Broad River Elementar	260	510	1957	24.3	15.1	E	Bft
Hunley Park	16	523	1958	10	16.46	E	CH
Minnie Hughes	48	279	1958	10	14.62	E	CH
R.D. Schroder	60	438	1958	19.12	18.43	M	CH
Malcom C. Hursey	20	461	1959	7	13.79	E	CH
Beaufort High School	720	1478	1959	27	44.78	HS	Bft
Matilda F. Dunston	8	468	1960	7.5	14.94	E	CH
	1562	***11277***					
	14%						

School	Hazzard	Enroll	Yr. Blt	Acres	State Req. Acres	School Type	School Dist
Stall	26	926	1961	26.04	45.97	HS	CH
Goose Creek High Sch	50	1616	1961	40	39	HS	Bk
Alice Birney	58	980	1961	17.36	20.9	M	CH
Lambs	108	570	1962	20	19.42	E	CH
Mossy Oaks Elementar	156	484	1962	9.38	14.84	E	Bft
Lady's Island Elementa	150	290	1963	20	12.9	E	Bft
Blaney (E)	43	324	1964	12.74	22.7	E	CH
Boulder Bluff Elementa	60	625	1964	22	14	E	Bk
J. B. Edwards (E)	60	764	1967	18	19.67	E	CH
Shell Point Elementary	330	668	1968	20	16.68	E	Bft
	1041	***7247***					
	14%						

Appendix 2

School	Hazzard	Enroll	Yr. Blt	Acres	State Req. Acres	School Type	School Dist
College Park Elementa	14	762	1974	12	26.3	E	Bk
Westview Elementary	56	714	1974	18.12	15.4	E	Bk
Sedgefield Middle	248	963	1974	13.64	24.65	M	Bk
Hilton Head Elementar	1224	1857	1974	18.48	15.78	E	Bft
Sangaree Elementary	38	751	1975	16.6	14.88	E	Bk
Westview Middle	60	1129	1976	36.24	30.8	M	Bk
	1640	***6176***					
	27%						

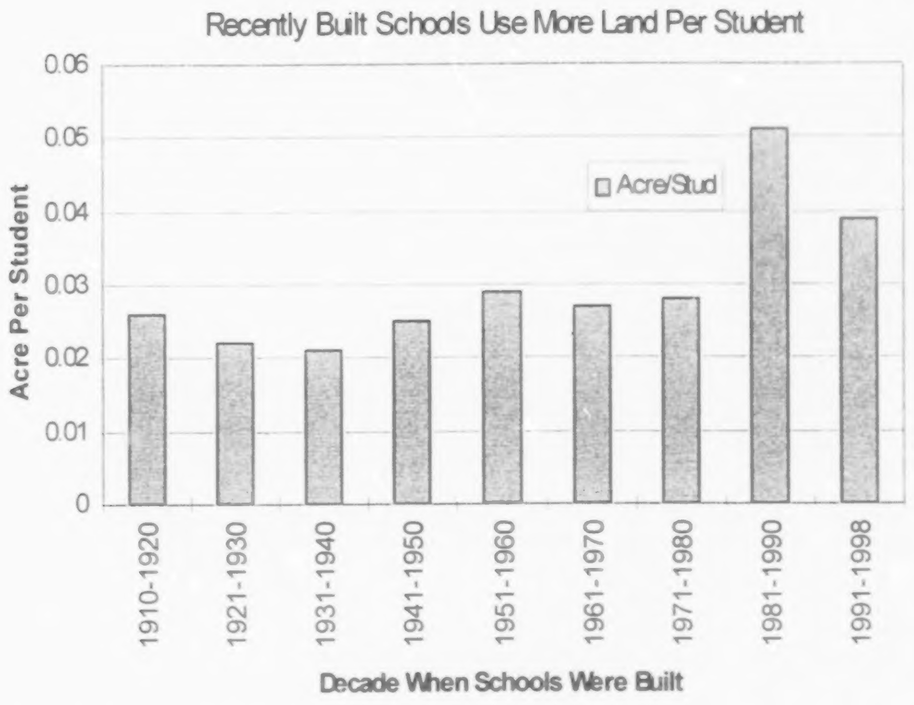
School	Hazzard	Enroll	Yr. Blt	Acres	State Req. Acres	School Type	School Dist
Hilton Head High Scho	300	1436	1983	44	37.4	HS	Bft
Robert Smalls Middle	600	1252	1984	47.85	32.52	M	Bft
Lady's Island Middle	799	1310	1984	41.3	33	M	Bft
Beaufort Elementary	150	527	1986	10	15.27	E	Bft
Sangaree Intermediate	8	606	1987	19.12	13.65	E	Bk
Belle Hall	113	600	1990	9	16	E	CH
	1970	***5731***					
	34%						

School	Hazzard	Enroll	Yr. Blt	Acres	State Req. Acres	School Type	School Dist
Devon Forest Element	96	891	1991	20	17.4	E	Bk
Sedgefield Intermediat	223	692	1991	8.36	15.3	E	Bk
Davis Elementary	360	427	1991	20.6	14.27	E	Bft
Riley Elementary	360	995	1991	21.19	19.95	E	Bft
St. Helena Elementary	686	793	1992	39	17.93	E	Bft
Battery Creek High Sch	900	1547	1992	60	45	HS	Bft
Berkeley Intermediate	100	765	1994	22	17.8	E	Bk
Shanklin Elementary	263	730	1994	20	17.3	E	Bft
Daufuskie Elementary	13	16	1995	13.5	10.16	E	Bft
Berkeley Elementary	4	726	1997	40.054	18	E	Bk
Coosa Elementary	150	480	1998	19.78	14.8	E	Bft
	3155	***8062***					
	39%						

Appendix 2

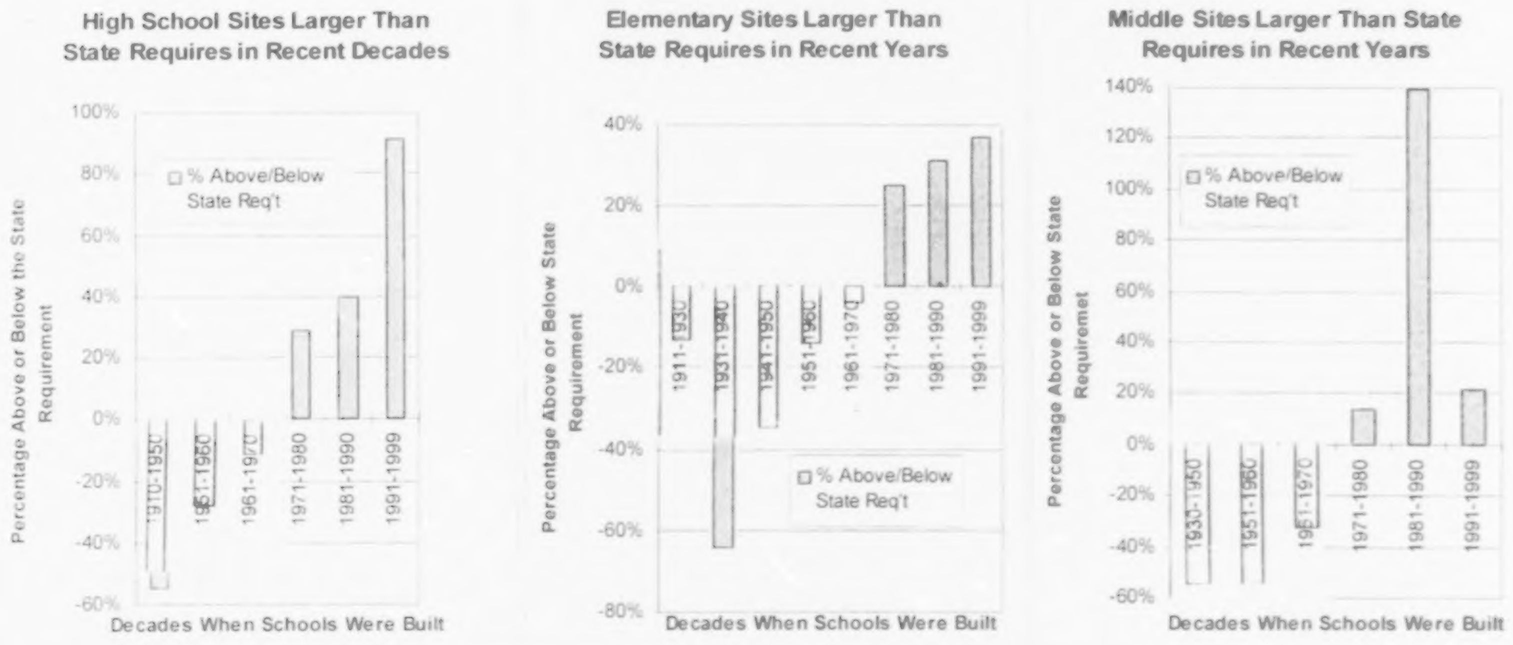
The Total Number of Students on Hazard Routes At Schools Built in Different Decades						
Berkeley -- Beaufort -- Charleston						
Decades	**Before 1950**	**1951-1960**	**1961-1970**	**1971-1980**	**1981-1990**	**1991-Present**
Total No. of Students	12,397	22,675	14,063	11,590	10,074	11,273
Total No. of Students Receiving Hazard Transportation	472	1562	1041	1640	1970	3155
The Total Percentage of All Students Receiving Hazard Transportation	3.80%	7%	7.40%	14.10%	20%	28%

Appendix 3


Recently Built Schools Use More Land Per Student
Acre Per Student
0.06
0.05
0.04
0.03
0.02
0.01
0
□ Acre/Stud
1910-1920
1921-1930
1931-1940
1941-1950
1951-1960
1961-1970
1971-1980
1981-1990
1991-1998
Decade When Schools Were Built

Appendix 4

The Percentage Above or Below State Acreage Requirements of Elementary, Middle, and High School Sites Built in Different Decades


High School Sites Larger Than State Requires in Recent Decades

Elementary Sites Larger Than State Requires in Recent Years

Middle Sites Larger Than State Requires in Recent Years

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Appendix 5

CRITERIA FOR SUCCESSFUL SCHOOL SITE SELECTION

The S. C. Department of Education recommends that the following list of questions be addressed in finding a successful site. Those in bold reflect growth management aims.

1. Will the site support the number of students and the educational functions that are expected to take place at the facility?
2. Is the site's location **convenient for the majority of students**?
3. Is the site the right size and shape?
4. What percentage of the site is usable?
5. Is the topography conducive to desired site development?
6. Is the general environment aesthetically pleasing?
7. Is the **site safe (e.g., traffic, natural hazards, high tension lines)**
8. Is the environmental quality healthful?
9. Is the site free of industrial and traffic noise (both air and ground)?
10. Does the land drain properly and are other soil conditions good?
11. Does the site have desired trees and other natural vegetation?
12. Is **safe drinking water available**?
13. Is **sewer available**?
14. Are there easements of any nature affecting the use of the site?
15. Is the site **suitably oriented for energy conservation**?
16. Is the site located on a flood plain?
17. Are there wetlands on the site?
18. Is the site **near other community services – libraries, parks, museums**?
19. What is the **relation of the site to existing educational facilities**?
20. How is surrounding land zoned – will the anticipated development of this land enhance the site?
21. Are **utility services available? (electricity, gas, telephone)**
22. Is the site **served by public safety agencies – police, fire department, rescue, medical, etc**.?
23. Is the **site easily accessible for service vehicles**?
24. Can the land be **shared with other community facilities and organizations especially parks**?
25. Will the site **provide desirable open space for the community where it is needed**?
26. Is the site available?
27. Is the site expandable in the future?
28. Is the site affordable?
29. Are life-cycle costs reasonable?
30. What is the extent of off-site improvement required?
31. Does the site location represent a potential problem concerning **the district's court ordered desegregation plan or Office of Civil Rights approved desegregation plan**?

Appendix 6

GOALS OF CONSERVATIONIST LAND USE

Goals for good conservationist development as expressed by Sam Passmore, Land Use Supervisor with the South Carolina Coastal Conservation League:

(1) the rational and deliberate expansion of the urban area to accommodate new growth – from the center out;
(2) efficient use of infill parcels;
(3) traditional neighborhood design (moderately higher densities, mix of uses, mix of housing types, pedestrian orientation) within urban areas and at the immediate edge of urban areas;
(4) open space development (i.e., clustering) at moderately low gross densities as you move into rural areas, with the gross densities declining as you move further from the urban center;
(5) a stable working rural landscape of timber, farms, and traditional rural communities;
(6) wild lands (like the Lowcountry's Francis Marion National Forest and the ACE Basin) at the far edge of the metro area.[1]

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[1] These were articulated by Sam Passmore of the South Carolina Coastal Conservation League.

Appendix 7

NATIONWIDE EFFORTS RELATED TO SCHOOL SITE SELECTION AND GROWTH MANAGEMENT

Legislative and executive efforts to curtail unplanned growth have been initiated across the country. Some states have specifically recognized school site selection as an area that affects development and accordingly they have altered their site selection process in varying degrees. Essentially, these states have made the process less isolated unto the realm of educators and broadened the whole process procedurally to include other state and local officials. Mandating a more collaborative process has reportedly mitigated the "bigger is better" culture of school siting.

Changing the mentality of how sites for government facilities are chosen has also been the aim of some federal attention. I begin this section about nationwide efforts to generally curtail unwanted sprawl with the Presidential Executive Orders pertaining to the policy of siting new federal buildings within town centers.

Federal Executive Orders

Centrally Locate Facilities. In 1978, President Carter issued Executive Order No. 12072 that directed all federal facilities to be located in urban areas as opposed to their periphery. Section 1-101 states: "federal facilities and federal use of space in urban areas shall serve to strengthen the nation's cities and to make them attractive places to live and work; such federal space shall conserve existing urban resources and encourage the development and redevelopment of cities." To achieve this aim, the executive order requires that sites be selected first in central locations. Section 1-103 states: "Meeting federal space needs in urban areas shall give first consideration to a centralized community business area and adjacent areas of similar character."

Collaborate with Local Officials. The directive acknowledges further that local officials must be included in the effort to best locate new federal offices. Emphasizing this policy, the order asserts that "In the process of meeting federal space needs, the administration shall… (c) consult with appropriate … local government officials and consider their recommendations and objections to a proposed selection site or space acquisition" (§1-202). The Executive Order also acknowledges the scarcity and preciousness of land by calling for its efficient use: General Provisions 1-301 states that "The heads of Executive agencies shall cooperate with the Administrator in implementing the policies of the Order and shall *economize on their use of space*."

Promote Historic Preservation. In 1996, President Clinton renewed the call for siting federal offices in a way that would strengthen city centers and use land efficiently. Executive Order No. 13006 explains that the Administration has "undertaken various efforts to revitalize our central cities, which have historically served as the centers for growth and commerce in our metropolitan areas." This more recent directive builds upon and furthers President Carter's

Executive Order No. 12072: the recent order states, "the Administration hereby reaffirms the commitment set forth in Executive Order No. 12072 to strengthen our Nation's cities by encouraging the location of federal facilities in our central cities." The policy directive reaffirms the National Historic Preservation Act, and asserts that the "Federal Government shall utilize and maintain, wherever operationally appropriate and economically prudent, historic properties and districts, especially those located in our central business areas." The order proceeds that first consideration should be given to historic properties within historic districts, if not available then consideration to other developed or undeveloped sites within historic districts, and if none are available then lastly to other historic properties outside of historic districts.

Maryland

Officials for the state of Maryland reported that they have recognized for some time that school location can impact unwanted urban sprawl. State officials realized, for example, the impact that minimum acreage requirements can have on forcing new schools to remote areas; thus, while Maryland considers the CEFPI minimums, the state has no minimum acreage requirements. In 1971, Maryland created the Interagency Committee (IAC); this joint committee was to combine input from three state agencies in approving new school sites.

Collaboration Among State Planners and Educators. The IAC has the ultimate authority to approve new sites. This committee is comprised of three "secretary" level officers of the state: Secretary of General Services (who is in charge of all state facilities and land); Secretary of State Planning; and the State Superintendent (who is actually not a governor appointee but rather is appointed by the state Board of Education). A majority vote among IAC members decides whether to approve a proposed site, although state officials reported that votes have always been unanimous. Under Maryland law, state approval is mandatory before a district can purchase a site.

Land Use Planning Valued in Site Selection Process. The Maryland site approval process demonstrates that land use planning practices are valued and related to school location. This is apparent in the Site Analysis Report which a district must submit to get approval for a proposed site. Section five of the report (*Planning/Zoning Suitability*) asks whether the location of the proposed new school conforms to the local government's comprehensive plans and whether the location is in a designated growth area. It continues to ask "what shared uses are contemplated," "what acreage of adjacent land is available for public/school use," and "what off-site work is needed to allow this site to properly fulfill its intended use."

Concern over the impact a proposed school location will have on a community also presents itself in the Environmental Assessment Form that is part to the application for approval as well. This form asks, under Land Use Planning considerations, "will project adversely affect adjacent existing planned land. Then under Socio-Economic considerations, the form asks, "will the project cause relocation of activities or structures, or result in a change in the population density of distribution" (i.e., will the location cause rapid new development around the school site).

School Sites in Sync with Local Comprehensive Plans. Upon application for a new school site, Maryland state in-house planners look to see whether the proposal is consistent with the local comprehensive plan in that area. State officials explained that a proposed site may meet criteria for a new school but be outside of a designated growth area in which case a recommendation would be made to the IAC to deny approval of the site; or a similar recommendation may result where an area has no water and sewer. A Maryland state planner, explained that Maryland officials recognize that "schools at the largest sites are suffering because they're removed from the community and everything is remote; in a built up area, everything is close, and that promotes community." He expressed that the aim of Maryland state officials is to "be better stewards of lands and using it better – not paving it all over." In addition, he expressed that they are raising their awareness to whether school sites are accessible to be sure and avoid circumstances where a school is "visible from one's from porch but not walkable."

Recent Improvements to the Process. The current up close analysis by IAC does not date back to its 1971 inception. The recent more thorough methods resulted from the July 1993 *Report of the Governor's Task Force on School Construction* commissioned by Maryland Governor Schaefer in 1992. The task force was comprised of state planners, state officers (secretary of general services, state treasurer, assistant state comptroller, state superintendent of schools), municipal and county elected officials, locally elected school board members, and parents. For the purposes of this report, the most relevant recommendation that the task force made was the following: "Review the policies, practices and/or procedures of the Public School Construction Program to assure that all projects comply with state and local growth management plans and policies."

The task force set forth the steps to achieve this recommendation. First, IAC is to require local boards of education "to address the adopted Comprehensive Plan of the local jurisdiction." Second, the local planning agency is to certify through a written statement "that the [school construction plan] is consistent with the adopted Comprehensive Plan of the local jurisdiction." Third, existing public school buildings are to be "renovated whenever possible and economical to (a) retain the school building within the neighborhood or community and (b) preserve and enhance prior state and/or local investments."

Florida

Comprehensive Plans Should Identify Future School Locations. Florida's State Comprehensive Planning Legislation requires a future land use plan that designates land for education. In this capacity, the law forces localities to think about school location even before schools may be needed because a future land use plan must "designate proposed general distribution, location and extent of uses of land for…education." In addition, the future land use element "must clearly identify the land use categories in which public schools are an allowable use." (Section 163.3177 (6) (a).)

To ensure local jurisdictions follow the directives to designate land for schools, the law punishes jurisdictions that fail to designate land for schools by limiting the control that jurisdiction will have over its future comprehensive plans: "The failure by a local government to comply with this requirement will result in the prohibition of the local government's ability to amend the local comprehensive plan." This was an amendment that resulted from the regular avoidance of school area designations by localities in their comprehensive plans.

Place Schools Centrally. Most directly on point to the containment of urban sprawl, however, is in Florida's Comprehensive Planning Legislation's requirement that will bring schools close to urban development. The law states that "the future land use element shall include criteria which encourage the location of schools proximate to urban residential areas to the extent possible and shall require that the local government seek to collocate public facilities, such as parks, libraries, and community centers, with schools to the extent possible."

School Laws Reinforce and Consistent with Comprehensive Planning Laws. In addition to Florida's Comprehensive Planning Legislation, Florida officials follow the Florida School Laws which borrows some of the Comprehensive Planning legislation's language. The consistency between the two laws help officials know what the expectations are and guides them to choose sites in a way that avoids sprawl. Under Florida Statutes §235.19, Site Planning and Selection, the local school board is specifically instructed to work with planning agencies on future growth plans.

The laws pertaining to site selection also addresses two other points worth mention. First, site size is flexible; a local school board – not the state – controls whether it will use less size than the state recommends. Section 235.19 of the Florida School Laws states that while the Commissioner of Education "Shall recommend sizes for new sites according to categories of students to be housed and other appropriate factors*…less-than-recommended site sizes are allowed if the board by a two-thirds majority recommends such a site and finds that it can provide an appropriate and equitable educational program on the site."*

Second, §235.19 (5) of the Florida School Laws promotes that school boards work with local governments to make schools more walkable for students living within a 2-mile radius. "Each [school] board may request county and municipal governments to construct and maintain sidewalks and bicycle trails within a 2-mile radius of each educational facility within the jurisdiction of the local government." Furthermore, the law promotes looking to mitigate unsafe passageways within close proximity of a school.

> When a school board discovers hazards near a public sidewalk, street, highway within a 2-mile radius of a school site and the hazard endangers the life or threatens the health or safety of students who walk, bike, or are transported regularly, it shall report the hazard to local governmental entity within the jurisdiction within 24 hours of becoming aware of the hazard; within 5 days, the government entity shall investigate the hazard and correct or provide precautions; unless it finds no hazard in which case it shall within 5 days of being notified of the hazard by the board report its reasons back to the board for not correcting the hazard. (paraphrasing §235.19 (5).)

As stated above, Florida's planning legislation is consistent with its school laws. Florida aims to ensure that new residential and educational development emerge concurrently with adequate services. In this vein, under §235.193 of the school laws, school officials are required to coordinate planning with local governing bodies,

> to ensure that plans for the construction and opening of public educational facilities are facilitated and coordinated in time and place with plans for residential development *concurrently* with other necessary services; such plans shall include the integration of the educational plant survey and applicable policies and procedures of a board with the local comprehensive plan and land development regulations of local governing bodies. (§235.293 (1).)

To achieve this coordination, the school board and local governing bodies "must share and coordinate information related to existing and planned public school facilities." In addition, a local school board shall notify in writing the "local government that has regulatory authority over the use of the land" that the land is intended for educational purpose; the local authority within a designated time must inform the board whether the proposed use is consistent with the local comprehensive plan.

Acreage Requirements Low, Controlled Locally, and Flexible. The acreage requirements in Florida are small and flexible. The *State Requirements for Education Facilities 1997* recommends that the lot size for a proposed school site be as follows:

(i) ELEMENTARY: a minimum of four acres for the first two hundred student capacity plus one acre for each additional one hundred students;

(ii) MIDDLE of JUNIOR HIGH. A minimum of six acres for the first three hundred student capacity plus one acre for each additional one hundred students;

(iii) SENIOR HIGH. A minimum of seven acres for the first three hundred student capacity plus one acre for each additional fifty students up to one thousand student plus one acre for each additional one hundred students thereafter;

(iv) EXCEPTION. The board may waive these minimum site sizes if a two-thirds majority finds that an appropriate and equitable educational program can be provided on a smaller site.

These recommended acreage minimums for Florida are considerably smaller than South Carolina. An elementary school for 600 students in Florida requires 6 acres while the same school in South Carolina requires 16 acres. A high school for 2,000 students in Florida requires 31 acres while the same school in South Carolina calls for 50 acres.

v

Vermont

Efforts to choose better school sites in Vermont have come from several sources including the governor, the Department of Natural Resources, Department of Education, and the Environmental Board. The Vermont Department of Natural Resources, for example, recognized the problem of schools being located in areas where no development yet existed and advised the state department of education to guide local school districts to put schools in growth areas. The recent Act 250 that is overseen by the Environmental Board is perhaps the most comprehensive control, but initial efforts for better site selection were triggered by the historic preservation movement in that state.

Receiving pressure from historic preservationists, the Vermont Department of Education issued a policy statement in 1997. The statement starts by asserting that schools have traditionally been within the physical centers of Vermont communities, there are benefits from maintaining that sense of community, and costs of rehabilitating historic schools is consistent with efforts in Vermont to focus investment into community centers.

The policy then follows that it is in the public interest "to protect Vermont's historic schools for future generations" and thus the Vermont State Board of Education adopts the policy that:

(1) School districts be encouraged to use existing structure and funding for renovations given preference over new school development – taking into consideration the educational needs of students and that the costs of rehabilitation do not unreasonably exceed the costs of such new development;
(2) School districts shall make all effort to preserve and protect historic school buildings and have a reuse plan or attach historic easements when the structure has been found unsuitable for future use.

The preservation policies of Vermont's Department of Education reinforce a 1985 executive order from the governor of Vermont that also emphasizes use of historic buildings for government agencies. Most importantly the executive order calls for coordinating the location of state facilities with local government officials to assure that state facilities will be located in accord with municipalities plans and regulation policies. This direction from the state's chief executive has helped school officials avoid the "bigger is better" mentality when considering school siting policies.

Vermont's Land Use and Development Law strongly influences keeping school projects in check from possibly triggering sprawl. Act 250 mandates that a permit be attained from a three-member District Environmental Commission (governor appointees) for any school project that is planned for a site greater than 10 acres. Adherence to Act 250 is reiterated in the Vermont School Construction Planning Guide. To obtain a permit, the school district must submit a plan to the District Environmental Commission that conforms to the Capability and Development Plan. Established by the state environmental board, the plan aims to reduce "wastes of financial and human resources that result from either excessive congestion or excessive scattering of population and tend toward an efficient and economic utilization of resources and services."

Also, the proposed school project will be reviewed for its conformance with any local or regional plan or capital facilities program.

In the Vermont School Construction Planning Guide, the department of education emphasizes the transportation costs that stem from site considerations. While transportation considerations are standard for facility guides, the Vermont guide indicates benefits from capitalizing on alternative forms of transportation. "Sites that are accessible to modes of transportation other than the automobile, that students can safely walk and ride their bicycles to and from and that are near municipal bus services may reduce transportation costs." The guide also emphasizes the central roles that schools have played in Vermont, and thus schools should continue to be located in a way that continues that tradition.

Maine

Maine offers perhaps the most cutting edge and helpful suggestions regarding site selection for new schools. The most striking examples of Maine's awareness of school location contributing to sprawl are found in a new pamphlet (prepared by the Maine Department of Education, State Board of Education, State Planning Office and Department of Administrative Services) and the Department of Education's application forms for new school construction.

New Department of Education Brochure Specifically Warns of Sprawl. The new brochure entitled "Site Selection" will help local school districts and city and county authorities collaborate and think more comprehensively about where new schools should be located to best serve the entire community. The brochure effectively demonstrates the intersection between land use planning and education by promoting the following steps for site selection:

(1) First consider renovation or expansion in a central location
(2) Follow the guidance and vision articulated in your community's Comprehensive Plan
(3) Site ancillary facilities such as playing fields creatively
(4) Select a site where students can walk or cycle to school
(5) Use existing services and facilities (and save money)
(6) Minimize site service costs
(7) Tap into community resources to help plan the school expansion
(8) Consult with site selection experts

The brochure offers three overarching guidelines that a local school district should mind when looking for new school sites: (1) avoid sprawl; (2) be site savvy; and (3) consult the community.

The brochure explains "why rural out-of-town sites cost more" and that locating schools "away from settled areas may incur higher long-term costs for taxpayers.". The brochure sets forth four primary areas where the cost is incurred:

- Transportation costs more for schools and for the community members who end up driving further to attend school events. More driving means higher expenses, more air pollution, and the loss of valuable time.

- Extension of utility lines/mains (power, telephone, water, sewer) or provision of on-site services (water, septic) can take precious construction monies away from the facility needs program.
- Remote, rural location can generate unplanned and undesirable development including residential and commercial sprawl.
- It is more difficult for schools in remote locations to link with other associated services like day care and health clinics.

The similarity of many of these observations in Maine to the scenarios in South Carolina's Lowcountry is striking and marks that the effects of nationally popular site selection schemes and philosophies are not specific to any one region.

Approval Process Emphasizes Land Conservation. Maine's Department of Education (DOE) provides thorough application packets to school districts when they apply for approval of a proposed location. Appendix B (Renovation vs. New Analysis) of the application forces the school district to analyze whether renovation of existing structures or construction of a new building makes more sense. If a school building is to be replaced, removed, or abandoned, an analysis must be performed and reported to DOE.

Appendix C, Preliminary Site Analysis, of the application tries to get local school officials to think about siting schools in a way that is central to communities and avoids sprawl. First, this part of the application encourages early contact by local school district officials with state and local planning offices for professional guidance in the site selection process. This portion of the application begins with an "overview" that asserts the "major concerns of existing and new school site[s]." These include the following:

- Schools are the heart of the community, as well as the centers of education.
- Siting decisions can cost, or save, money over the long term.
- The location of a school can reinforce or work against a community's plans for future growth and development.
- A school's location affects all citizens; it mirrors local values and community pride.

Then, Appendix C lays out the specific guidelines for site selection (which are the same as those mentioned in the brochure (mentioned above). These begin with *Avoid Sprawl*: "Use caution in the selection of a site based on its proximity to member towns of a multi-town school district. Although it may be closer to those towns, the potential for increased long-term operational costs is significant if located away from services and most populated residential areas." The next guideline set forth is *Be Site Savvy*: "If the sites in growth areas are too small to support the entire project, consider siting playing fields, parking, and/or auxiliary uses on land close by." The final guideline provided is *Consult the Community*: "the Department of Education encourages broad public involvement in the site selection process. Public support is achieved by public involvement and the avoidance of haste in the decision making process."

Maine began to give serious focus to the relationship of school location and sprawl following the results of the Ryer Report, commissioned by the governor of Maine. The results of the report indicated that new school locations in Maine were contributing to sprawl, and this led to a debate in which officers at the Department of Education insisted that schools were merely reacting to, not causing sprawl. Regardless of the debate, recent efforts, as presented above, demonstrate Maine's obvious willingness to improve its site selection process to find sites that are more central and thus will avoid the possibility of contributing to sprawl.

Other States

In addition to the states discussed above, four other states have begun efforts or have taken measures to mitigate possible adverse effects of unchecked school site selection. ***Oregon***, a state that imposes no minimum acreage requirements, requires that a school district obtain a conditional use permit for a proposed new school location. This permit must be approved and issued by the local planning agency of the jurisdiction. In addition, under the direction of the Land Conservation and Development Commission, which is a state agency, schools cannot be located outside urban growth boundaries designated in local comprehensive development plans. This commitment to keeping new schools in locations near current development was recently soundly reinforced when the governor of Oregon vetoed a bill that would have allowed new schools to be located in ***urban reserve areas*** identified for future urban growth boundary expansion.

A cursory review shows that ***North Carolina*** has been siting schools in similar fashion to South Carolina. However, North Carolina sends a message to local school officials in that its minimum acreage requirements are "guidelines" only and not mandatory. The N.C. School Facility Planning Guide states that its suggested acreage sizes "may not be attainable in urban and certain other areas of the state. In these cases, innovative solutions for parking, physical education facilities and other site amenities may be required." In addition, Preservation North Carolina (PNC) has stirred state and local officials to think more seriously about preserving and reusing historic school buildings. State legislators have supported the organization's efforts to identify schools across the state that are designated for demolition – this in turn has helped PNC demonstrate that rehabilitation can be competitive and often more affordable than building new schools.

In ***Pennsylvania***, the governor has made it clear that state money must not to projects that facilitate or cause sprawl, and this policy extends to the school systems, at least where state money is involved, which is the standard routine in Pennsylvania. The governor's Executive Order No. 1997-6 calls for all state agencies to work together to "preserve agricultural land and a common vision" and thus it directs all agencies to seek to mitigate and "protect against the conversion of primary agricultural land." The order then declares it is the state's policy to "protect the Commonwealth's primary agricultural land from irreversible conversion to uses that result in its loss as an environmental and essential food and fiber resource." State officials have indicated the order has influenced the way government officials think about facility location in general, including schools. Another Pennsylvania effort was initiated by Preservation Pennsylvania that got the Pennsylvania Department of Education to change its reimbursement method for school construction to now encourage rehabilitation of historic school buildings.

In ***California***, state legislators are currently working on the Safe Routes to School Bill. This proposed legislation would allow local governments to access funds to improve infrastructure for pedestrian and bicycle traffic in the vicinity of schools. Projects under the legislation could include new crosswalks, building bicycle paths and lanes, constructing sidewalks where none exist, and implementing "traffic calming" programs in neighborhoods around schools to slow the speed of cars and allow safer passages for children walking and bicycling to school. This bill would allow local governments direct access to these funds and put safety dollars to work in the middle of the communities and neighborhoods that need them the most. The bill raises no new taxes and imposes no new mandates on local governments. It simply takes the money that the state receives each year from the federal government and redirects a portion of it to be spent to improve school area safety. (Paraphrasing liberally from the Safe Routes Fact Sheet, on the Internet at www.bypeds.org/factsheet.html.)

National Walk a Child to School Day.

The Center for Disease Control and Prevention joined other organizations from across the nation to promote and sponsor the National Walk a Child to School Day on Wednesday October 6, 1999. The event aimed to have adults leave their cars at home and walk children to school that day to promote the opportunity for children and parents to spend time together and practice safe pedestrian behavior. At the same time, communities highlighted the benefits of active and safe routes to schools, and in turn the hope is that community leaders will commit to making it safer for our children to walk, bike and play outside. In addition, principals in California at about 200 schools will survey students to determine how many children walk to school regularly.

Growing health concerns motivated some of the efforts for the National Walk a Child to School Day. The California Department of Health and the Center for Disease Control and Prevention have discerned increasing physical inactivity among school age children and realize the adverse health affects that are linked therewith. For example, the percentage of young people who are overweight has more than doubled in the past 30 years. Thus, in conjunction with the event, these agencies encourage that public health efforts focus on "increasing the physical activity level of our youth to enhance their current well-being and to reduce the risks of future chronic disease." Also, they hope to increase public understanding that "inadequate physical activity is one of the limited number of behaviors that contribute markedly to today's major killers."

Caveat to Looking at Other States

The efforts begun by states to think more comprehensively about school location. Yet, from various sources, it is reported that problems with school siting in these states persist for one of many reasons. Also, many of these states have control over local school districts because of a closer state-local capital financing link than exists in South Carolina.

It is necessary to add that not all of the practices in South Carolina's Lowcountry lead to bad school locations. Belle Hall Elementary for example was located as the result of negotiations between the town of Mount Pleasant's planning agency, the city's parks and recreation department, and real estate developers. The modest 10-acre school sits along side a city park used regularly by the whole community, but by the school children during school hours.

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